



Habitats Regulations Assessment Screening Report

Cambridge Water's Draft Drought Plan 2022

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Executive Summary

To be completed.

1. Introduction

1.1 Background

Water companies in England and Wales are required to prepare and maintain statutory Drought Plans under Sections 39B and 39C of the Water Industry Act 1991, as amended by the Water Act 2014, which set out the operational steps a company will take before, during and after a drought. The Water Industry Act 1991 (as amended) defines a Drought Plan as ‘*a plan for how the water undertaker will continue, during a period of drought, to discharge its duties to supply adequate quantities of wholesome water, with as little recourse as reasonably possible to Drought Orders or Drought Permits*’.

A water company must ensure its Drought Plan meets the requirements of the Habitats Regulations before implementation. The requirement for a Habitats Regulations Assessment (HRA) is established through the Conservation of Habitats and Species Regulations 2017 as amended. Under Regulations 63 and 105, 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.

Water companies in England are required to produce a Drought Plan every five years and submit a draft plan to the Secretary State in line with the timescales set out in the Drought Plan (England) Direction 2020. The Environment Agency’s Drought Plan Guidance¹ also specifies that a water company must ensure that its drought plan meets the requirements of the Habitats Regulations. The Environment Agency’s 2020 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 Likely Significant Effects (LSE).

1.2 Requirement

The responsibility for undertaking the Habitats Regulations Assessment lies with Cambridge Water as the Plan making authority.

¹ Environment Agency (2020) Water Company Drought Plan Guideline, December 2020 (Version 1.2)

² UKWIR (2021) Environmental Assessment Guidance for Water Resources Management Plans and Drought Plans (WR/02/S)

HRA Guidance for the appraisal of Plans³, summarises the Habitats Regulations. Regulation 63 states that the Plan making authority (in this case Cambridge Water) shall adopt, or otherwise give effect to, the Plan only after having ascertained that it will not adversely affect the integrity of a European site, subject to Regulation 64 or 105 of the Habitats Regulations.

Regulation 64 of the Habitats Regulations states:

1. If the competent authority is satisfied that, there being no alternative solutions, the plan or project must be carried out for Imperative Reasons of Overriding Public Interest (IROPI) (which, subject to paragraph (2), may be of a social or economic nature), it may agree to the plan or project notwithstanding a negative assessment of the implications for the European site or the European offshore marine site (as the case may be);
2. Where the site concerned hosts a priority natural habitat type or a priority species, the reasons referred to in paragraph (1) must be either:
 - a) reasons relating to human health, public safety or beneficial consequences of primary importance to the environment; or
 - b) any other reasons which the competent authority, having due regard to the opinion of the European Commission, considers to be IROPI.

Regulation 105 of the Habitats Regulations states:

1. Where a land use plan:
 - a) is likely to have a significant effect on a European site or a European offshore marine site (either alone or in combination with other plans or projects), and
 - b) is not directly connected with or necessary to the management of the site, the plan-making authority for that plan must, before the plan is given effect, make an appropriate assessment of the implications for the site in view of that site's conservation objectives.
2. The plan-making authority must for the purposes of the assessment consult the appropriate nature conservation body and have regard to any representations made by that body within such reasonable time as the authority specifies;
3. The plan-making authority must also, if it considers it appropriate, take the opinion of the general public, and if it does so, it must take such steps for that purpose as it considers appropriate;
4. In the light of the conclusions of the assessment, and subject to regulation 107, the plan-making authority must give effect to the land use plan only after having ascertained that it will not adversely affect the integrity of the European site or the European offshore marine site (as the case may be);

³ Tyldesley, D. & Chapman, C. (2013) The Habitats Regulations Assessment Handbook, September 2021 edition UK: DTA Publications Limited

5. A plan-making authority must provide such information as the appropriate authority may reasonably require for the purposes of the discharge by the appropriate authority of its obligations under this Chapter.
6. This regulation does not apply in relation to a site which is:
 - a) a European site by reason of regulation 8(1)(c); or
 - b) a European offshore marine site by reason of regulation 18(c) of the Offshore Marine Conservation Regulations (site protected in accordance with Article 5(4) of the Habitats Directive).

The best practice guidance³ 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 it may adversely affect the integrity of a European site, the HRA will need to address and explain the IROPI which the Plan making authority considers to be sufficient to outweigh the potentially adverse effects on the European site(s). It must also agree and secure a package of compensation measures for the features of the site that may be adversely affected by implementation of the Plan.

1.3 Scope of the report

The purpose of this HRA Screening report is to:

- Describe the Project (the Cambridge Water Draft Drought Plan 2022);
- Provide information on the ecological interests and features of the potentially affected European Sites;
- Describe the likely nature and scale of the impacts on the European Sites from the Project or any likely 'in combination' and cumulative effects with other Plans and/ or Projects; and
- Consider the results to allow a decision on the information in this statement to be made by Natural England as the Competent Authority under The Conservation of Habitats and Species Regulations 2017 (the Habitats Regulations), whether the Project proposals have the potential to significantly affect any European or Ramsar sites.

2. Habitats Regulations Assessment Process

2.1 Legislation

The Conservation of Habitats and Species Regulations 2017, referred to as the 'Habitats Regulations', transpose the requirements of the European Birds and Habitats Directive⁴ into UK legislation. The Birds Directive aims to protect rare and vulnerable birds and the habitats that they depend upon and this is achieved in part through the classification of Special Protection Areas (SPAs).

The Habitats Directive aims to protect plants, habitats and animals other than birds, and this is achieved in part through the creation of Special Areas of Conservation (SACs). Article 6(1) and (2) of the Habitats Directive require that Member States establish management measures for these areas, to avoid deterioration of their ecological interest. SPAs and SACs include European Marine Sites, which are designated sites below Mean High Water (out to 12 nautical miles). As per Natural England guidance⁵, any HRA should also consider any European Marine Protected Areas (MPAs) within England's inshore waters to support sites in achieving conservation objectives and to guide effective management. No MPAs of European importance or Marine Conservation Zones (MCZs) are associated with the study area.

The UK is also a contracting party to the Ramsar Convention⁶, which seeks to protect wetlands of international importance, especially those wetlands utilised as waterfowl habitat. It is UK Government policy that all competent authorities should treat Ramsar sites similarly as if they are fully designated European sites.

Collectively, all formally proposed and fully classified or designated SPAs and SACs, and all formally proposed or listed Ramsar sites form a pan-European Union network of protected areas known as Natura 2000. These are also referred to as European sites³, and this term has been adopted throughout this report.

⁴ Council Directive on the conservation of natural habitats and of wild fauna and flora of 21st May 1992 (92/43/EEC) and Council Directive on the conservation of wild birds of 2nd April 1979 (70/409/EEC) consolidated by the Birds Directive 2009 (2009/147/EC).

⁵ Tips and advice on how to assess potential impacts of water company statutory plans on the marine environment – Focussing on Marine Conservation Zones (MCZ) (June 2011)

⁶ Convention on wetlands of international importance especially as waterfowl habitat, Ramsar, Iran, 2/2/71 as amended by the Paris protocol of 3/12/92 and the Regina amendments adopted at the extraordinary conference of contracting parties at Regina, Saskatchewan, Canada 28/5 – 3/6/87, most commonly referred to as the 'Ramsar Convention'.

2.2 Habitats Regulations Assessment Process

Regulation 63 of the Habitats Regulations requires a competent authority to undertake an ‘appropriate assessment’ of any plan or project (alone or in-combination with other plans and projects) which is likely to have a significant effect on the features or a European Site, unless the project is directly connected with the management of the site.

It is incumbent on any public body (referred to as a competent authority within the Habitats Regulations) to carry out a HRA where they are proposing to carry out a project, implement a plan or authorise another party to carry out a plan or project. Competent authorities are required to record the process undertaken, ensuring that there will be no adverse effects on the integrity of a European site as a result of a plan or project.

2.3 Assessment Stages

The European Commission has developed guidance in relation to Articles 6(3) and 6(4) of the Habitats Directive⁷, and this recommends a four-stage approach to addressing the requirements of these Articles. Table 2-1 summarises the four HRA stages.

Table 2-1 Stages in the Habitats Regulations Assessment process

Stage	Description
Stage 1: Screening	Assessment of whether a plan or project, either alone or in combination with other plans or projects, is likely to have a significant effect on a Natura 2000 site.
Stage 2: Appropriate Assessment	Consider the impacts of the plan on the integrity of a European site, alone or in combination with other plans or projects and with reference to the site's conservation objectives. Consider measures to mitigate the identified impacts. Prepare an Appropriate Assessment Report for consultation with key stakeholders including Natural England.
Stage 3: Assessment of alternative solutions	Re-assessing alternatives if effective mitigation proves impossible and develop/ select a different alternative that does not harm site integrity. If no such alternatives exist the process continues to Stage 4.
Stage 4: Assessment where no alternative solutions exist and where adverse impacts remain	At this stage, plans which, after mitigation still have an adverse effect on the site(s) integrity should be dropped. Assessing whether a plan can be passed justified by ‘imperative reasons of overriding public interest’ (IROPI) or permitted on the grounds of human health, public safety or primary beneficial consequences for the environment.

⁷ European Commission (2001). Assessment of plans and projects significantly affecting Natura 2000 site. Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC. Published November 2001.

2.3.1 Stage 1 Screening

This stage identifies the likely effects of the Project on any European site, either alone or in combination with other plans or projects. Specifically, this stage considers whether these effects are likely to be significant with regard to the integrity of the European site. The Project will require 'appropriate assessment' if it is considered that any aspect of it will have a significant effect on any European site.

2.3.2 Stage 2 Appropriate Assessment

If it is considered that a plan or project is likely to have a significant effect on the integrity of a European site, the requirements of Stage 2 are triggered. This stage considers the impacts of the Project on the integrity of a European site, alone or in combination with other plans or projects. The assessment should consider the implications for the European site in view of the site's conservation objectives. If adverse impacts are identified, this assessment should also consider measures to mitigate the identified impacts.

If necessary, modifications to those proposals or policies are identified to avoid any adverse effects on site integrity. If mitigation is not possible and adverse effects on a European site's integrity remain, the process must proceed to Stage 3.

2.3.3 Guidance on procedure and method

This information has additionally been informed by the following guidance and policy documents:

- National Planning Policy Framework (2019); and
- Tyldesley, D. and Chapman, C. (2021) The Habitats Regulations Assessment Handbook. DTA Publications Limited.

The guidance does not define the method for undertaking or recording Habitats Regulations Assessment but notes that the adopted method must be appropriate to its purpose under the Habitats Directive and Habitats Regulations i.e. an 'appropriate assessment'.

2.4 EU Exit

The legislative transposing the EU Habitats Directive and the Wild Birds Directive has been changed so that they continue to operate effectively from 1st January 2021. This includes the Conservation of Habitats and Species Regulations 2017 (as amended) in England and Wales, and the Conservation of Offshore Marine Habitats and Species Regulations 2017 (as amended).

The changes have been made by the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019. The changes ensure the strict protections afforded to sites, habitats and species, including wild birds, continue. Most of these changes involved transferring functions from the European Commission to the appropriate authorities in England and Wales. All other processes or terms in the 2017 Regulations remain unchanged and existing guidance is still relevant.

2.5 Potential Impacts

To provide an indication of those measures more likely to have a significant effect on a European site(s), those drought management measures that are within 10 km of a European site were identified initially. Consideration has also been given to the relative spatial locations of the drought management measures and designated sites within the same surface water and groundwater catchments and/ or estuarine system to ensure that any hydrological connectivity over a longer distance that might affect water-dependent sites, qualifying features and designated mobile species has been taken into account. GIS data were used to map the locations and boundaries of European sites within or adjacent to the Cambridge Water supply area, a single water resource zone (WRZ), using publicly available data from Natural England.

The attributes of the European sites, which contribute to and define their integrity, have been considered with reference to Standard Data forms for SACs and SPAs and Information Sheets for Ramsar sites. An analysis of these information sources has enabled the identification of the site's qualifying features. This information, as well as Article 12 and 17 reporting, site conservation objectives, supplementary guidance, Site Improvement Plans and the supporting Site of Special Scientific Interest's favourable condition tables, has been used to identify those features of each site which determine current conservation status, site integrity and the specific sensitivities of the site. Analysis of how potential impacts of the drought management measures may affect a European site has been undertaken using this information. The locations of the supply side drought options were also mapped to establish their geographic proximity to the European sites.

The Draft Drought Plan 2022 proposes a number of options which would make more water available for supply than is available under normal operating conditions. Drought options include demand side options (e.g. water use restrictions) and continued utilisation of existing licensed water sources within Cambridge Water's resource base (referred to as supply side options).

Demand side options are designed to reduce the demand for water and the options available to Cambridge Water are consistent across the supply area (Table 2-2).

Supply side measures are measures available to Cambridge Water to introduce during a drought to increase the amount of water available for supply.

Table 2-2 Demand-side Drought Management Options

Demand-side options	Comments
Enhanced communications	Increased water efficiency messages via increased customer communications
Additional promotion of water efficiency	As above, including encouraging customers, for example, to switch to measured (metered) bills, including incentives for customers to change their water use behaviours
Enhanced leakage reductions	Ensure that all maintenance programmes are up-to-date and undertake additional leakage control, leading to demonstrable water savings
Appeals for restraint	Appeals for restraint is a significant uplift to the drought communications activity. It aims to

Demand-side options	Comments
	express the seriousness of an emerging drought before Cambridge water implement temporary use restrictions.
Implementation of temporary use bans (TUBs)	Restrictions on the use of hosepipes for a range of uses, including the washing of vehicles and boats, watering gardens and sports grounds and filling of paddling pools.
Ordinary Drought Order – non-essential use bans (NEUBs)	Drought order to restrict non-essential water uses to be applied for when reservoir stocks fall below Drought Level 3 ⁸ . Ordinary drought orders allow Cambridge Water to further restrict non-essential water use at commercial and institutional premises. They are more wide-ranging than those included in a TUB.

Table 2-3 Supply-side Drought Management Options

Supply-side options	Comments
Outage reduction	Proactive asset management maintenance programme to keep outage to a minimum and raise operational response priorities. Actions do not deliver additional savings; the objective is to ensure the full deployable output under dry year conditions is available
Bulk Supply optimisation	As part of communication with other water companies, Cambridge Water will review and update the position and availability of transfers.
Use of existing licensed headroom	Cambridge Water maintain licensed volumes to abstract without the requirement of drought permits (see specific borehole abstractions below), with headroom equivalent to those reductions included in the WRMP. The potential requirement for supply options of this magnitude would not be expected until at least 36 months following drought trigger Level 2 ^{Error! Bookmark not defined.} .
Transfer/ trades with other companies	Short term transfers or trades with neighbouring companies or other sectors
Tankering	Moving water from areas with surplus and injecting into networks or storage
Supply schemes	Fast track WRMP or WRE schemes
Effluent re-use	Redirecting discharges to supply for potable or non potable use
Network changes	Overland or temporary pipelines for new supplies
Increase abstraction within the licences above recent actual volumes at the following boreholes:	
Brettenham	Potential increase in abstraction: 7.1 MI/d Increase of licence (EA assessment): >63%

⁸ Cambridge Water Draft Drought Plan 2022

Supply-side options	Comments
	New augmentation discharge licences required
Euston	Potential increase in abstraction: 2.4 MI/d Increase of licence (EA assessment): >30% New augmentation discharge licences required
Westley	Potential increase in abstraction: 6.83 MI/d Increase of licence (EA assessment): >60%
Fleam Dyke	Potential increase in abstraction: 2.65 MI/d Increase of licence (EA assessment): >17%
Babraham	Potential increase in abstraction: 4.2 MI/d Increase of licence (EA assessment): >18%
Horseheath	Potential increase in abstraction: 1.9 MI/d Increase of licence (EA assessment): >83% New augmentation discharge licences required
Linton	Potential increase in abstraction: 0.85 MI/d Increase of licence (EA assessment): >44%
Rivey	Potential increase in abstraction: 0.7 MI/d Increase of licence (EA assessment): >32%
Fleam Dyke 12	Included in Fleam Dyke above
Croydon	Potential increase in abstraction: 0.67 MI/d Increase of licence (EA assessment): >34%
Kingston	Potential increase in abstraction: 0.23 MI/d Increase of licence (EA assessment): >23%
Abstraction at St Ives borehole during drought – recently returned source	Potential increase in abstraction: 1.62 MI/d New augmentation discharge licences required

In determining the likelihood of significant effects on European sites from any drought management option, particular consideration has been given to the possible source receptor pathways through which effects may be transmitted from activities associated with the options to features contributing to the integrity of the European sites (e.g. groundwater or surface water catchments). Table 2-4 provides examples of the types of impacts the options may have on European site qualifying features. Screening for LSEs has been determined on a proximity basis for many of the types of impacts, based on the proximity of the potential location of each measure to each European site. However, there are many uncertainties associated with using set distances as there are very few standards available as a guide to how far impacts will extend. Different types of impacts can occur over different distances, and the assumptions and distances used in the HRA and justification for them are shown in Table 2-4.

Cambridge Water's Draft Drought Plan 2022 includes alternative long-term options available to the company in the event of a third consecutive dry year winter which may, if deployed, involve some construction activity (e.g. temporary overland pipelines). For all of the remaining options, there is no construction phase associated with the options and it is only operational impacts that will need to be considered.

Table 2-4 Potential Impacts of Drought Options

Broad categories of potential impacts on European sites, with examples	Examples of operations responsible for impacts (distance assumptions in italics)
<p>Non-physical disturbance:</p> <ul style="list-style-type: none"> • Noise (incl. underwater) • Visual presence • Human presence • Light pollution • Vibration (incl. underwater) 	<p>Noise from temporary construction or temporary pumping activities - taking into consideration the noise level generated from general building activity (c. 122dB(A)) and considering the lowest noise level identified in appropriate guidance as likely to cause disturbance to bird species, it is concluded that noise impacts could be significant up to 1 km from the boundary of a European site.</p> <p>Noise from vehicular traffic during operation of a scheme - noise from construction traffic is only likely to be significant where the transport route to and from the scheme is within 3 – 5 km of the boundary of the European site.</p> <p>Plant and personnel involved in in operation of the scheme - These effects (noise, visual/ human presence) are only likely to be significant where the boundary of the scheme extends within or is directly adjacent to the boundary of the European site, or within/ adjacent to an offsite area of known foraging, roosting, breeding habitat (that supports species for which a European site is designated).</p> <p>Schemes which might include artificial lighting, e.g. for security around a temporary pumping station - effects from light pollution are only likely to be significant where the boundary of the scheme is within 500 m of the boundary of the European site.</p> <p>Vibration from temporary construction - from a review of Environment Agency internal guidance on HRA and various websites/ sources it is considered that effects of vibration are more likely to be significant if development is within 500 m of a European site.</p>
<p>Water table/ availability:</p> <ul style="list-style-type: none"> • Drying • Flooding/ stormwater • Changes to surface water levels and flows including both increases and reductions • Changes in groundwater levels and flows 	<p>Changes to water levels and flows due to increased water abstraction or reduced storage. These effects are only likely to be significant where the boundary of the scheme extends within the same ground or surface water catchment as the European site. However, these effects are dependent on hydrological continuity between the scheme and the European site, and sometimes, whether the scheme is up or down stream from the European site.</p>
<p>Toxic contamination:</p> <ul style="list-style-type: none"> • Water pollution • Soil contamination • Air Pollution 	<p>Reduced dilution in downstream or receiving waterbodies due to changes in abstraction or reduced compensation flow releases to river systems.</p> <p>These effects are only likely to be significant where the boundary of the scheme extends within the same ground or surface water catchment as the European</p>

Broad categories of potential impacts on European sites, with examples	Examples of operations responsible for impacts (distance assumptions in italics)
	<p>site. However, these effects are dependent on hydrological continuity between the scheme and the European site, and sometimes, whether the scheme is up or down stream from the European site.</p> <p>Air emissions associated with plant and vehicular traffic during construction and operation of schemes.</p> <p>The effect of dust is only likely to be significant where site is within or in proximity to the boundary of the European site. Without mitigation, dust and dirt from the construction site may be transported onto the public road network and then deposited/ spread by vehicles on roads up to 500 m from large sites, 200 m from medium sites, and 50 m from small sites as measured from the site exit.</p> <p>Effects of road traffic emissions from the transport route to be taken by the project traffic are only likely to be significant where the protected site falls within 200 m of the edge of a road affected.</p>
<p>Non-toxic contamination:</p> <ul style="list-style-type: none"> • Nutrient enrichment (e.g. of soils and water) • Algal blooms • Changes in water chemistry (e.g. pH, calcium balance etc) • Changes in thermal regime • Changes in turbidity • Changes in sedimentation/ silting 	<p>Changes to nutrient levels, turbidity, thermal regime due to increased water abstraction or reduced compensation flow releases to river systems. These effects are only likely to be significant where the boundary of the scheme extends within the same ground or surface water catchment as the European Site. However, these effects are dependent on hydrological continuity between the scheme and the European site, and sometimes, whether the scheme is up or down stream from the European site.</p>
<p>Biological disturbance:</p> <ul style="list-style-type: none"> • Changes to habitat availability • Out-competition by non-native species • Selective extraction of species • Rapid population fluctuations • Natural succession 	<p>Potential for changes to habitat availability, for example reductions in wetted width of rivers leading to desiccation of macrophyte beds due to changes in abstraction or reduced compensation flow releases to river systems.</p> <p>Creation of new pathway of non-native invasive species.</p> <p>This effect is only likely to be significant where the scheme is situated within the European site or an upstream tributary of the European site (or affects groundwater levels supporting these sites or tributaries).</p> <p>Entrapment during in-river or terrestrial construction works causing injury and/ or mortality of mobile species.</p> <p>Likely to be a risk of entrapment, injury and/or mortality where the boundary of the option extends within or is directly adjacent to the boundary of a</p>

Broad categories of potential impacts on European sites, with examples	Examples of operations responsible for impacts (distance assumptions in italics)
	European site or within/adjacent to offsite functionally linked habitat. Mobile species could include fish, bats and European otters for example.
<p>Physical loss:</p> <ul style="list-style-type: none"> • Removal (including offsite effects, e.g. foraging habitat, and removal of supporting habitat within boundary of a SPA) • Smothering 	<p>Development of infrastructure associated with scheme, e.g. new or temporary pipelines, transport infrastructure.</p> <p>Indirect effects from a reduction in flows e.g. drying out marginal habitat.</p> <p>Physical loss is most likely to be significant where the boundary of the scheme extends within the boundary of the European site, or within an offsite area of known foraging, roosting, breeding habitat (that supports species for which a European site is designated).</p>
<p>Physical damage:</p> <ul style="list-style-type: none"> • Sedimentation/ silting • Habitat degradation • Erosion • Fragmentation • Severance/barrier effect • Edge effects 	<p>Reduction in river flow leading to permanent and/ or temporary loss of available habitat, sedimentation/ siltation, fragmentation, etc.</p> <p>Physical damage is likely to be significant where the boundary of the scheme extends within or is directly adjacent to the boundary of the European site, or within/ adjacent to an offsite area of known foraging, roosting, breeding habitat (that supports species for which a European site is designated, or where natural processes link the scheme to the site, such as through hydrological connectivity downstream of a scheme, or the scheme impacts the linking habitat).</p>

3. Identification of Relevant European Sites

3.1 The protected site identification process

To understand the potential implications for European Sites from the implementation of the Draft Drought Plan it is necessary to identify those sites that are located close to the project or are linked by pathways such as hydrological connections.

All European Sites and European Marine Sites within 10 km of the project or linked by pathways were identified using Geographic Information System data from datasets downloaded from the JNCC, Magic and Natural England websites. The 10 km buffer was chosen based on the characteristics of the options and the likely effects. For completeness, if no sites were located within 10 km, the nearest site was then mapped to the project site.

3.1.1 *Understanding qualifying interests and conservation objectives*

For each of the sites identified the features were established and the conservation objectives for each feature were obtained. Information was also sought to understand the potential vulnerability of the features to any effects that might arise from the proposed project.

3.1.2 *Identification of the potential effects of the project*

Any potential pathways for effect on European Sites resulting from the proposed development were identified prior to consideration of best practice procedures (e.g. Guidelines for Pollution Prevention and CIRIA guidance) or the integration of any mitigation measures.

3.1.3 *Identification of plans or projects considered for in-combination effects*

An 'in-combination' assessment is required where the project may have an effect on a European Site, but on its own the effects would not be significant. The potential effects of the project should be considered in-combination with other plans or projects that similarly may have an effect, but where on their own those effects would not be significant. The combined effects may therefore become significant.

Details of other plans and projects which are currently proposed or consented within the vicinity of the European Sites identified were obtained to inform the in-combination assessment of the proposed project (Section 4.4).

3.1.4 *Consideration of the significance of potential effects*

The significance of potential effects was assessed in the absence of avoidance or other mitigation measures other than those which are standard construction practices such as pollution control or those incorporated into the scheme. The assessment has been made with awareness of the conservation objectives for the features of the European Sites.

In the assessment of the significance of effects, professional judgement was applied using the following criteria, as often insufficient information about the elements and interests is available:

- The vulnerability/ sensitivity of the receiving environment/ features of interest;
- When the risk of effects are likely to occur (e.g. construction and/ or operation);
- The likely geographical extent of the effects; and
- Likelihood of significant effects (e.g. those above negligible in magnitude) occurring based on previous experience with similar elements, where available.

Professional judgement was used in the carrying out of this work where professional guidance was not available. Where there was not enough information about the risk of qualifying interest being present, or of the risk of effects, the assessment used the precautionary principle⁹ to inform the judgement. The precautionary principle has been applied to ensure that any assessment errs on the side of caution, without being overly cautious. This principle means that the conservation objectives should prevail where there is uncertainty or that harmful effects will be assumed in the absence of evidence to the contrary.

⁹ The precautionary principle applies where scientific evidence is insufficient, inconclusive or uncertain and preliminary scientific evaluation indicates that there are reasonable grounds for concern that the potentially dangerous effects on the environment, human, animal or plant health may be inconsistent with the high level of protection chosen by the EU. EU (2000) Communication from the commission on the precautionary principle, COM1, Brussels: Commission of the European Communities.

4. HRA Screening Process

4.1 Screening

The term 'screening' is routinely adopted to describe the initial stage of the HRA. The purpose of screening is to:

- Identify all aspects of the Project that are not likely to have a significant effect on a European site, either alone or in combination with other aspects of the Project or other plans or projects. These can then be screened out from further assessment.
- Identify those aspects of the Project where it is likely to have a significant effect on a European site, either alone or in combination with other plans or projects. These aspects will require 'appropriate assessment' and mitigation measures may need to be introduced.

4.2 Likely significant effects

Current guidance defines a 'likely' effect as one that cannot be ruled out on the basis of objective information. In the Waddenzee case the European Court of Justice provides further clarity on this point, advising that a project (and a plan) should be subject to appropriate assessment if it cannot be excluded, on the basis of objective information, that it will have a significant effect on the site, either individually or in combination with other plans and projects¹⁰. Therefore, 'likely' should be interpreted as a significant effect that, objectively, cannot be ruled out.

An effect may be significant if it undermines the conservation objectives for the European site. The assessment of whether a potential effect is significant for the site's interest features must consider, amongst other things, the characteristics and specific environmental conditions of the site concerned. The Advocate General's Opinion for the Sweetman case¹¹ provides further clarification, stating that consideration of the likelihood of a significant effect is simply a case of determining whether the plan or project is capable of having a significant effect.

The overarching aim of the Natura 2000 network is to achieve favourable conservation status of habitats listed in Annex I and habitats of species listed Annex II of the Habitats Directive, and of regularly occurring migratory bird species and the species set out in Annex I of the Birds Directive. In considering whether a site's integrity will be affected, Member States must have regard to the site's conservation objectives. In this regard, the site's overall conservation objectives will extend beyond an isolated consideration of the Annex I habitats and Annex II species (or relevant bird species) contained within the site and take account of

¹⁰ See paragraph 45 of European Court of Justice case C-127/02 dated 7th September 2004, the 'Waddenzee ruling'.

¹¹ Sweetman v. An Bord Pleanála, Case C-258/11, CJEU judgment 11 April 2013.

the wider ecological context of the site as a whole in terms of its effects on the designated features.

At the same time, according to Sweetman, site integrity must be determined by reference to 'the lasting preservation of the constitutive characteristics of the site concerned that are connected to the presence of a priority natural habitat whose preservation was the objective justifying the designation of that site'. This case is able to show that the favourable conservation status of a listed natural habitat or of the habitat of a listed species (and linked to its site integrity) extends beyond focusing on merely protecting the natural habitat or the habitat of the species.

A further recent HRA judgment (Holohan & Ors. v An Bord Pleanála, 7 November 2018, C - 461/17) has also been considered within this assessment. In summary this judgement provides further clarification about the scope of an assessment, requiring that all habitats and species associated with a European site must be considered (irrespective of whether or not they are qualifying features) if impacts on those habitats and species are liable to affect the conservation objectives of the site.

4.3 Testing for Likely Significant Effects

A decision by the Court of Justice of the European Union (CJEU) 'People Over Wind and Sweetman v Coillte Teoranta' (C-323/17) (CJEU 2018) dictates that measures intended to avoid or reduce the harmful effects of a proposed project on a European site may no longer be taken into account by competent authorities at the HRA screening stage when judging whether a proposed plan or project is likely to have a significant effect on the integrity of a European designated site.

Consistent with C-323/17, the potential for interest features to be adversely impacted by the Project is initially assessed in the absence of design mitigation i.e. in the absence of those measures which are accepted or known impact reducing measures. Examples of design measures include those elements associated with an agreed surface water management strategy. By assessing LSE initially in this manner, a transparent assessment is ensured.

Should any interest feature fail the screening test, the entire site is taken through to HRA stage.

4.4 In-combination effects

A series of individually modest effects may in-combination produce effects that are likely to adversely affect the integrity of one or more European Sites. Article 6(3) of the Habitats Directive attempts to address this by considering the combination of effects from other plans or projects. Guidance in section 4.4.3 of 'Managing Natura 2000 Sites: The provisions of Article 6 of the 'Habitats' Directive 92/43/EEC', published by the European Union, states:

'When determining likely significant effects, the combination of other plans or projects should also be considered to take account of cumulative impacts. It would seem appropriate to restrict the combination provision to other plans or projects which have been actually proposed'.

The hydrological impact assessment considered cumulative hydrological impacts of simultaneous deployment of options. Cumulative impacts that could arise with other non-public water supply abstractions are also considered, as are indirect impacts on water quality as a result of reduced dilution.

In accordance with the Habitats Regulations the review has therefore considered the in-combination effects of the drought options in the Cambridge Water Draft Drought Plan 2022 and a number of plans and projects, that could have an impact on the European sites identified within this HRA. The following plans and projects have been considered in the cumulative effects assessment:

- Inter-option effects within the Cambridge Water WRMP.

Other water company Water Resource Management Plans (WRMPs) and Drought Plans:

- Affinity Water;
- Anglian Water Services Limited;
- Environment Agency Cambridgeshire and Bedfordshire Drought Plan;
- Water Resources East Regional Plan.

The assessment has used all publicly available information. It should also be noted that the water companies are at different stages of updating their WRMPs and Drought Plans and therefore further updates may be required to the HRA cumulative assessment as these become available between the draft and final submissions.

The findings of the in-combination impact assessments between each drought option and the schemes above can be found in Table 6-2 Screening of Company-wide Supply Side Drought Options for Impacts on European Sites

Likely Significant Effect and Potential for Alteration of Measure to Avoid Effects?	
	None - proactive asset management maintenance programme to keep outage to a minimum and raise operational response priorities. Actions do not deliver additional savings; the objective is to ensure the full deployable output under dry year conditions is available. No impacts on designated sites are anticipated, other than to acknowledge that decreased outage have a net positive effect in combination with existing abstraction and/ or drought option sites that have the potential to impact European sites due to reduced pressure on water resources and reduced abstraction at source.
	None - as part of communication with other water companies, Cambridge Water will review and update the position and availability of transfers. No impacts on designated sites are anticipated, other than to acknowledge that optimisation of transfers will have a net positive effect in combination with existing abstraction and/ or drought option sites that have the potential to impact European sites due to reduced pressure on water resources and reduced abstraction at source.
Companies	None - short term transfers or trades with neighbouring companies or other sectors. No impacts on designated sites are anticipated, other than to acknowledge that optimisation of transfers will have a net positive effect in combination with existing abstraction and/ or drought option sites that have the potential to impact European sites due to reduced pressure on water resources and reduced abstraction at source.
	None - Moving water from areas with surplus and injecting into networks or storage. No impacts on designated sites are anticipated, other than to acknowledge that tankering will have a net positive effect in combination with existing abstraction and/ or drought option sites that have the potential to impact European sites due to reduced pressure on water resources and reduced abstraction at source.

Likely Significant Effect and Potential for Alteration of Measure to Avoid Effects?	
	or drought option sites that have the potential to impact European sites due to reduced pressure on water resources and reduced abstraction at specific sources.
	None - redirecting discharges to supply for potable or non-potable use. No impacts on designated sites are anticipated, other than to acknowledge that re-use of water will have a net positive effect in combination with existing abstraction and/ or drought option sites that have the potential to impact European sites due to reduced pressure on water resources and reduced abstraction at source.
	None - overland or temporary pipelines for new supplies. No impacts on designated sites are anticipated, other than to acknowledge that re-distributing water will have a net positive effect in combination with existing abstraction and/ or drought option sites that have the potential to impact European sites due to reduced pressure on water resources and reduced abstraction at source.

Table 6-3, column 6: 'In combination effects with other options, plans and projects'.

5. Strategic level supporting studies

5.1 Greater Cambridge Integrated Water Management Study

The Greater Cambridge Shared Planning Service (GCSPS) has prepared an interim Integrated Water Management Study¹² as an evidence study to support the development of the Greater Cambridge Local Plan.

The report provides a high-level review on the opportunities, constraints and uncertainties for water aspects (flood risk, water supply, wastewater and water quality) for the strategic (non-site specific) spatial options currently being tested by the GCSPS. The report has been prepared in advance of completing a main Integrated Water Management Study documents (a Level 1 Strategic Flood Risk Assessment, an Outline Water Cycle Study and a Detailed Water Cycle Study), which are due to be completed later in 2021.

Stakeholders of the study widely agree that the Chalk aquifer that supplies the majority of potable water within the Cambridge Water Resource Zone is under abstraction pressure, which may be having a detrimental impact on Chalk stream baseflows and causing environmental damage, particularly during dry years. This may be further exacerbated in the future by the potential impacts of climate change (UKCP18, Met Office). Natural England has highlighted the severity of the issue in potentially affecting a number of nationally and internationally designated sites.

The study acknowledges that Cambridge Water's WRMP19 includes planned reduction in total abstractions where impacts have been identified and incorporates restrictions to abstraction licences to reduce the risk of further deterioration in the Chalk aquifer.

The study also acknowledges that Cambridge Water are key (founding) members of Water Resources East (WRE) and are directly helping to develop new supply options through the WRE planning process. The Environment Agency has not specified what further reductions in abstractions may be required to go beyond the existing cost-benefit tested levels of improvement being actioned through WINEP. Any further reductions will be explored in the regional plan by WRE, which will set out an overall destination for reducing abstraction and the timescales for implementing further actions.

The study recognises that significant decreases in licensed groundwater abstraction rates will not be feasible until alternative potable water sources are available and that options identified through WRE to increase regional resilience to droughts are not yet sufficiently developed to be included in water company plans (WRMP or Drought) just yet.

¹² Stantec UK Limited (2020), Greater Cambridge Local Plan Strategic Spatial Options Assessment, Integrated Water Management Study, Ref: 48444/003 Rev: D. Greater Cambridge Shared Planning, November 2020.

5.2 Water Resources East

WRE is one of five Regional Planning Groups working under the National Framework for Water Resources¹³ to develop a long-term integrated water management plan for Eastern England. As required by the National Framework, WRE's key focus through to September 2023 is on developing a single, multisector best value adaptive Regional Plan for water management across Eastern England. To achieve this, WRE are working with water companies, Local Authorities and Local Enterprise Partnerships, the energy and agricultural sectors, landowners and environmental non-government organisations (eNGOs).

WRE are investigating a significant number of supply options, including opportunities for new or optimised options across the region and opportunities to transfer water in from neighbouring regions. Opportunities are also been investigated to transfer water out of the region where the need arises, working collaboratively with the other Regional Groups and via the National Framework to deliver a plan for the whole country.

Alignment between the WRE Regional Plan and water company WRMP24 submissions is critical for the success of WRE. To manage the related risks and issues, WRE water companies (including Cambridge Water) have formed an Alignment Task & Finish Group. Supported by the WRE Technical Director and senior water resource planners from each water company, this group will determine how outputs from the regional planning process will be taken up and used in WRMP24 as well as the related 2024 Periodic Review (PR24) Business Plans. WRE are currently on track to publish an advanced draft Regional Plan in August 2022, at the same time as the first draft of WRMP24.

Therefore, at this time, resource options identified through WRE to increase regional resilience to droughts are not yet sufficiently developed to be included in water company plans (WRMP or Drought) just yet. If there is any change to the Cambridge Water resource position through the WRE process, Cambridge Water would need to consider replacing loss to deployable output or abstraction licences through the WRMP24 process and Drought Plan (for example, with temporary drought permits to provide additional supplies during drought periods). These changes would constitute a material change in circumstances and would require a revision of this drought plan and this HRA Screening, within 12 months of publishing this plan.

5.3 Water Industry National Environment Programme

The supply-side actions ensure Cambridge Water optimise operations so that the deployable output (DO) stated in the current Cambridge Water WRMP (WRMP19) is available and those actions utilise existing licences, granted by the Environment Agency. Some elements of some abstraction licences are time-limited or have been identified for investigation and potential sustainability reductions through the Water Industry National Environment Programme (WINEP) for WFD standards. Cambridge Water has made allowances in

¹³ <https://www.gov.uk/government/publications/meeting-our-future-water-needs-a-national-framework-for-water-resources>

WRMP19 that include presumption of renewal for time-limited licences; and, indicative sustainability reductions to licences for WINEP drivers such as risk of deterioration. The actual reductions to licence volumes, and timings of these are yet to be confirmed and agreed.

Should there be a change to this position, Cambridge Water may need to consider replacing loss to DO or abstraction licences with temporary drought permits to provide additional supplies during drought periods. This would constitute a material change in circumstances and would require a further revised drought plan (and HRA) to be produced within 12 months of publishing this plan.

In the Draft Drought Plan, Cambridge Water has followed the Environment Agency's guidance on environmental assessments, identifying likely changes to flows and impacts from supply-side actions on the environment and assessing the sensitivity any likely impact.

As a result of these assessments, Cambridge Water has produced several environmental monitoring plans (EMPs) to assess the impact of implementing supply-side actions of utilising existing licence headroom, focused on surface water bodies identified through the WINEP review of Cambridge Water's abstractions. The environmental impact against the Water Framework Directive (WFD) requirements has been assessed by means of changes in flow regime that could impact ecological status. Any deterioration to WFD status of the groundwater body would be of a temporary nature, and any significant impact because of groundwater deterioration would be to the status class of the surface water bodies and ecology.

Supply side drought actions are only expected at drought trigger Level 3, following demand Actions, and would be for a drought more severe than those on historic record, and where demand actions are ineffective.

As any impact would be to surface water bodies, and supported ecology, Cambridge Water has carried out assessments and produced EMPs for the following water bodies, which we discussed in more detail in the Draft Drought Plan: River Granta; Millbridge Common; Bottisham Lode; Cherry Hinton Brook; Hobsons Brook; Little Ouse; River Thet and Sapiston River. These are the water bodies that are supported by groundwater base flows.

The assessments describe the proposed baseline, and during and post-drought monitoring for groundwater sources identified in the WINEP for which it may be necessary to increase use above recent abstraction but within existing licence conditions, and where this may cause a risk of deterioration.

The assessments concluded that the drought actions would not impact on cultural or heritage sites, the spread of non-native species, water quality or biodiversity under the Natural Environment and Rural Communities Act 2006.

6. HRA Screening Results

The HRA of the Drought Plan screened all of the drought options in the Cambridge Water WRZ. A total of 12 options (demand side, supply side options) were screened. This provided an indication of the schemes that may be likely to have a significant effect on a European site(s). The HRA screening matrix for this assessment is presented in Table 6-1 to Table 6-3.

In combination effects were assessed and are documented in the matrix.

Table 6-1 Screening of Demand Side Drought Options for Impacts on European Sites

Option	Likely Significant Effect and Potential for Alteration of Measure to Avoid Effects?	Further HRA Assessment?
Enhanced communications	None – media/ water efficiency campaign includes increased water efficiency messages via increased customer communications. No impacts on designated sites are anticipated, other than to acknowledge that decreased consumer demand will have a net positive effect in combination with existing abstraction and/ or drought option sites that have the potential to impact European sites due to reduced pressure on water resources and reduced abstraction at source.	No
Additional promotion of water efficiency	None – media/ water efficiency campaign includes increased water efficiency messages via increased customer communications. No impacts on designated sites are anticipated, other than to acknowledge that decreased consumer demand will have a net positive effect in combination with existing abstraction and/ or drought option sites that have the potential to impact European sites due to reduced pressure on water resources and reduced abstraction at source.	No
Enhanced leakage reductions	None - it is envisaged that leakage detection and repair schemes will largely be undertaken primarily in urban areas. No impacts on designated sites are anticipated, other than to acknowledge that decreased consumer demand will have a net positive effect in combination with existing abstraction and/ or drought option sites that have the potential to impact European sites due to reduced pressure on water resources and reduced abstraction at source.	No
Appeals for restraint	None – media/ water efficiency campaign includes increased water efficiency messages via increased customer communications. No impacts on designated sites are anticipated, other than to acknowledge that decreased consumer demand will have a net positive effect in combination with existing abstraction and/ or drought option sites that have the potential to impact European sites due to reduced pressure on water resources and reduced abstraction at source.	No
Implementation of temporary use bans (TUBs)	None – TUBs, or any restrictions on consumer water use, are demand management measures and as such, are not anticipated to have impacts on European sites. Decreased consumer demand will have a net positive effect in combination with existing abstraction and/ or drought option sites that have the potential to impact European sites, due to reduced pressure on water resources and reduced abstraction at source.	No
Ordinary Drought Order – non-essential use bans (NEUBs)	None – a non-essential use ban and its components are demand management measures and as such are not anticipated to have impacts on European sites. Decreased consumer demand will have a net positive effect in combination with existing abstraction and/ or drought option sites that have the potential to impact European sites due to reduced pressure on water resources and reduced abstraction at source.	No

Table 6-2 Screening of Company-wide Supply Side Drought Options for Impacts on European Sites

Option	Likely Significant Effect and Potential for Alteration of Measure to Avoid Effects?	Further HRA Assessment?
Outage reduction	None - proactive asset management maintenance programme to keep outage to a minimum and raise operational response priorities. Actions do not deliver additional savings; the objective is to ensure the full deployable output under dry year conditions is available. No impacts on designated sites are anticipated, other than to acknowledge that decreased outage will have a net positive effect in combination with existing abstraction and/ or drought option sites that have the potential to impact European sites due to reduced pressure on water resources and reduced abstraction at source.	No
Bulk Supply optimisation	None - as part of communication with other water companies, Cambridge Water will review and update the position and availability of transfers. No impacts on designated sites are anticipated, other than to acknowledge that optimisation of transfers will have a net positive effect in combination with existing abstraction and/ or drought option sites that have the potential to impact European sites due to reduced pressure on water resources and reduced abstraction at source.	No
Transfer/ trades with other companies	None - short term transfers or trades with neighbouring companies or other sectors. No impacts on designated sites are anticipated, other than to acknowledge that optimisation of transfers will have a net positive effect in combination with existing abstraction and/ or drought option sites that have the potential to impact European sites due to reduced pressure on water resources and reduced abstraction at source.	No
Tankering	None - Moving water from areas with surplus and injecting into networks or storage. No impacts on designated sites are anticipated, other than to acknowledge that tankering will have a net positive effect in combination with existing abstraction and/ or drought option sites that have the potential to impact European sites due to reduced pressure on water resources and reduced abstraction at specific sources.	No
Effluent re-use	None - redirecting discharges to supply for potable or non-potable use. No impacts on designated sites are anticipated, other than to acknowledge that re-use of water will have a net positive effect in combination with existing abstraction and/ or drought option sites that have the potential to impact European sites due to reduced pressure on water resources and reduced abstraction at source.	No
Network changes	None - overland or temporary pipelines for new supplies. No impacts on designated sites are anticipated, other than to acknowledge that re-distributing water will have a net positive effect in combination with existing abstraction and/ or drought option sites that have the potential to impact European sites due to reduced pressure on water resources and reduced abstraction at source.	No

Table 6-3 Screening of Site Specific Supply Side Drought Options for Impacts on European Sites

Option	European Site within zone of minor, moderate or major hydrological impact ¹⁴	Qualifying features (European sites)	Potential for effects on qualifying features/ main habitats	Potential likely significant effect of scheme on European site(s) alone?	In combination effects with other options, plans and projects	Conclusion
Brettenham - increase abstraction within the licence above recent actual volumes	Breckland SAC 4 km west	<p>Inland dunes with open <i>Corynephorus</i> and <i>Agrostis</i> grasslands.</p> <p>Natural eutrophic lakes with <i>Magnopotamion</i> or <i>Hydrocharition</i> - type vegetation.</p> <p>European dry heaths.</p> <p>Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>).</p> <p>Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i>.</p> <p>Great crested newt <i>Triturus cristatus</i>.</p> <p>The meres of the SAC are groundwater fed and their distinct ecology arises from them occasionally drying out¹⁵.</p>	<p>The largest area of meres of the SAC, known as the Breckland meres, can be found near East Wretham, north east of Thetford. The Breckland meres include Ringmere, Langmere, Fowl mere and Mickle mere. The meres are located between 5 and 10 km from the Brettenham abstraction.</p> <p>Test pumping in 1994¹⁷ showed there was no discernable impact of abstraction identified in any of the observation boreholes north of the River Thet or around the meres.</p> <p>As part of the licence renewal in 2015 an assessment¹⁶ was completed to determine whether abstracting at maximum licence results in adverse impacts to the River Thet, Little Ouse, Sapiston River and the Breckland meres. The main conclusions from the investigation were:</p> <ul style="list-style-type: none"> • Due to the presence of many abstractions in the river catchments, the influence on river flow by individual abstractions is difficult to determine; • The ecology data collected by the EA did not indicate any adverse impacts to the ecology directly attributable to the CW abstractions. <p>However, further work was recommended (e.g. hydro-morphological surveys, further pumping tests) to provide a higher level of confidence in the definition of the impacts of abstraction at Brettenham on river flows and ecology.</p>	None	None	No Likely Significant Effect

¹⁴ The distance given is to the nearest element of the drought option e.g., impacted reaches or constructional element) and the designated site.

¹⁵ Mott MacDonald, 1995. Groundwater Development Thetford Phase 3 Report, Cambridge: Mott MacDonald.

¹⁶ Mott MacDonald (2014), Euston and Brettenham AMP5 investigation report Phase A. Ref. 332960. Cambridge Water. April 2014.

Option	European Site within zone of minor, moderate or major hydrological impact ¹⁴	Qualifying features (European sites)	Potential for effects on qualifying features/ main habitats	Potential likely significant effect of scheme on European site(s) alone?	In combination effects with other options, plans and projects	Conclusion
			There is no construction related to this option.			
	Breckland SPA 785 m west	Stone curlew <i>Burhinus oedicnemus</i> . Nightjar <i>Caprimulgus europaeus</i> Woodlark <i>Lullula arborea</i> The remnants of dry heath and grassland support heathland breeding birds, where grazing by rabbits and sheep is sufficiently intensive to create short turf and open ground. These breeding birds have also adapted to live in forestry and arable habitats.	There is no construction related to this option and no operational impacts have been identified. There is no significant hydraulic continuity between the borehole and the site. The site qualifying features are not directly dependent on groundwater levels or supported surface water flows.	None	None	No Likely Significant Effect
Euston - increase abstraction within the licence above recent actual volumes	Breckland SAC 3.7 km north west	Inland dunes with open <i>Corynephorus</i> and <i>Agrostis</i> grasslands. Natural eutrophic lakes with <i>Magnopotamion</i> or <i>Hydrocharition</i> - type vegetation. European dry heaths. Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco-Brometalia</i>). Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> . Great crested newt <i>Triturus cristatus</i> . The meres of the SAC are groundwater fed and their distinct ecology arises from them occasionally drying out ¹⁷ .	The largest area of meres, known as the Breckland meres, can be found near East Wretham, north east of Thetford. The Breckland meres include Ringmere, Langmere, Fowl mere and Mickle mere. The meres are located between 7 to 12 km from Euston. Test pumping in 1994 ¹⁷ showed there was no discernable impact of abstraction identified in any of the observation boreholes north of the River Thet or around the meres. As part of the licence renewal in 2015 an assessment ¹⁸ was completed to determine whether abstracting at maximum licence results in adverse impacts to the River Thet, Little Ouse, Sapiston River and the Breckland meres. The main conclusions from the investigation were: <ul style="list-style-type: none"> • Due to the presence of many abstractions in the river catchments, the influence on river flow by individual abstractions is difficult to determine; • The ecology data collected by the EA did not indicate any adverse impacts to the ecology directly 	None	None	No Likely Significant Effect

¹⁷ Mott MacDonald, 1995. Groundwater Development Thetford Phase 3 Report, Cambridge: Mott MacDonald.

¹⁸ Mott MacDonald (2014), Euston and Brettenham AMP5 investigation report Phase A. Ref. 332960. Cambridge Water. April 2014.

Option	European Site within zone of minor, moderate or major hydrological impact ¹⁴	Qualifying features (European sites)	Potential for effects on qualifying features/ main habitats	Potential likely significant effect of scheme on European site(s) alone?	In combination effects with other options, plans and projects	Conclusion
			<p>attributable to the CW abstractions.</p> <p>However, further work was recommended (e.g. hydro-morphological surveys, further pumping tests) to provide a higher level of confidence in the definition of the impacts of abstraction at Euston on river flows and ecology.</p> <p>There is no construction related to this option.</p>			
	Breckland SPA 750 m north west	<p>Stone curlew <i>Burhinus oedicanus</i>. Nightjar <i>Caprimulgus europaeus</i> Woodlark <i>Lullula arborea</i></p> <p>The remnants of dry heath and grassland support heathland breeding birds, where grazing by rabbits and sheep is sufficiently intensive to create short turf and open ground. These breeding birds have also adapted to live in forestry and arable habitats.</p>	<p>There is no construction related to this option and no operational impacts have been identified. There is no significant hydraulic continuity between the borehole and the site. The site qualifying features are not directly dependent on groundwater levels or supported surface water flows.</p>	None	None	No Likely Significant Effect
Westley - increase abstraction within the licence above recent actual volumes	Devils Dyke SAC 4.4 km north east	<p>Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia)</p> <p>The site hosts the priority habitat type "orchid rich sites". Devil's Dyke consists of a mosaic of CG3 <i>Bromus erectus</i> and CG5 <i>Bromus erectus</i> – <i>Brachypodium pinnatum</i> calcareous grasslands. It is the only known UK semi-natural dry grassland site for lizard orchid <i>Himantoglossum hircinum</i>.</p>	<p>Site is an ancient linear earthwork, thought to be of Anglo-Saxon origin comprising a deep ditch and high bank which extends for around 7 miles from Woodditton south of Newmarket to Reach, north-west of the town, across open chalk country. The banks of the ditch were constructed from chalk dug from the surrounding land.</p> <p>There is no construction related to this option and no operational impacts have been identified. There is no direct hydraulic continuity between the borehole and the site. The site qualifying features are not directly dependent on groundwater levels or supported surface water flows.</p>	None	None	No Likely Significant Effect
Fleam Dyke - increase abstraction within the licence above recent actual volumes	Devils Dyke SAC 10.3 km north east	<p>Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia)</p> <p>The site hosts the priority habitat type "orchid rich sites". Devil's Dyke consists of a mosaic of CG3 <i>Bromus erectus</i> and CG5 <i>Bromus erectus</i> – <i>Brachypodium pinnatum</i> calcareous grasslands. It is the only known UK semi-natural dry grassland site for lizard orchid <i>Himantoglossum hircinum</i>.</p>	<p>Site is an ancient linear earthwork, thought to be of Anglo-Saxon origin comprising a deep ditch and high bank which extends for around 7 miles from Woodditton south of Newmarket to Reach, north-west of the town, across open chalk country. The banks of the ditch were constructed from chalk dug from the surrounding land.</p> <p>There is no construction related to this option and no operational impacts have</p>	None	None	No Likely Significant Effect

Option	European Site within zone of minor, moderate or major hydrological impact ¹⁴	Qualifying features (European sites)	Potential for effects on qualifying features/ main habitats	Potential likely significant effect of scheme on European site(s) alone?	In combination effects with other options, plans and projects	Conclusion
			been identified. There is no direct hydraulic continuity between the borehole and the site. The site qualifying features are not directly dependent on groundwater levels or supported surface water flows.			
Babraham - increase abstraction within the licence above recent actual volumes	Devils Dyke SAC 15.1 km north east	Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) The site hosts the priority habitat type "orchid rich sites". Devil's Dyke consists of a mosaic of CG3 <i>Bromus erectus</i> and CG5 <i>Bromus erectus</i> – <i>Brachypodium pinnatum</i> calcareous grasslands. It is the only known UK semi-natural dry grassland site for lizard orchid <i>Himantoglossum hircinum</i> .	Site is an ancient linear earthwork, thought to be of Anglo-Saxon origin comprising a deep ditch and high bank which extends for around 7 miles from Woodditton south of Newmarket to Reach, north-west of the town, across open chalk country. The banks of the ditch were constructed from chalk dug from the surrounding land. There is no construction related to this option and no operational impacts have been identified. There is no direct hydraulic continuity between the borehole and the site. The site qualifying features are not directly dependent on groundwater levels or supported surface water flows.	None	None	No Likely Significant Effect
Horseheath - increase abstraction within the licence above recent actual volumes	Devils Dyke SAC 13.5 km north	Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) The site hosts the priority habitat type "orchid rich sites". Devil's Dyke consists of a mosaic of CG3 <i>Bromus erectus</i> and CG5 <i>Bromus erectus</i> – <i>Brachypodium pinnatum</i> calcareous grasslands. It is the only known UK semi-natural dry grassland site for lizard orchid <i>Himantoglossum hircinum</i> .	Site is an ancient linear earthwork, thought to be of Anglo-Saxon origin comprising a deep ditch and high bank which extends for around 7 miles from Woodditton south of Newmarket to Reach, north-west of the town, across open chalk country. The banks of the ditch were constructed from chalk dug from the surrounding land. There is no construction related to this option and no operational impacts have been identified. There is no direct hydraulic continuity between the borehole and the site. The site qualifying features are not directly dependent on groundwater levels or supported surface water flows.	None	None	No Likely Significant Effect
Linton - increase abstraction within the licence above recent actual volumes	Devils Dyke SAC 14.7 km north east	Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) The site hosts the priority habitat type "orchid rich sites". Devil's Dyke consists of a mosaic of CG3 <i>Bromus erectus</i> and CG5 <i>Bromus erectus</i> – <i>Brachypodium pinnatum</i> calcareous grasslands. It is the only known UK semi-natural dry grassland site for lizard orchid	Site is an ancient linear earthwork, thought to be of Anglo-Saxon origin comprising a deep ditch and high bank which extends for around 7 miles from Woodditton south of Newmarket to Reach, north-west of the town, across open chalk country. The banks of the ditch were constructed from chalk dug from the surrounding land. There is no construction related to this	None	None	No Likely Significant Effect

Option	European Site within zone of minor, moderate or major hydrological impact ¹⁴	Qualifying features (European sites)	Potential for effects on qualifying features/ main habitats	Potential likely significant effect of scheme on European site(s) alone?	In combination effects with other options, plans and projects	Conclusion
		<i>Himantoglossum hircinum</i> .	option and no operational impacts have been identified. There is no direct hydraulic continuity between the borehole and the site. The site qualifying features are not directly dependent on groundwater levels or supported surface water flows.			
Rivey - increase abstraction within the licence above recent actual volumes	Devils Dyke SAC 14.6 km north east	Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) The site hosts the priority habitat type "orchid rich sites". Devil's Dyke consists of a mosaic of CG3 <i>Bromus erectus</i> and CG5 <i>Bromus erectus</i> – <i>Brachypodium pinnatum</i> calcareous grasslands. It is the only known UK semi-natural dry grassland site for lizard orchid <i>Himantoglossum hircinum</i> .	Site is an ancient linear earthwork, thought to be of Anglo-Saxon origin comprising a deep ditch and high bank which extends for around 7 miles from Woodditton south of Newmarket to Reach, north-west of the town, across open chalk country. The banks of the ditch were constructed from chalk dug from the surrounding land. There is no construction related to this option and no operational impacts have been identified. There is no direct hydraulic continuity between the borehole and the site. The site qualifying features are not directly dependent on groundwater levels or supported surface water flows.	None	None	No Likely Significant Effect
Fleam Dyke 12 - increase abstraction within the licence above recent actual volumes	Devils Dyke SAC 11.0 km north east	Semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) The site hosts the priority habitat type "orchid rich sites". Devil's Dyke consists of a mosaic of CG3 <i>Bromus erectus</i> and CG5 <i>Bromus erectus</i> – <i>Brachypodium pinnatum</i> calcareous grasslands. It is the only known UK semi-natural dry grassland site for lizard orchid <i>Himantoglossum hircinum</i> .	Site is an ancient linear earthwork, thought to be of Anglo-Saxon origin comprising a deep ditch and high bank which extends for around 7 miles from Woodditton south of Newmarket to Reach, north-west of the town, across open chalk country. The banks of the ditch were constructed from chalk dug from the surrounding land. There is no construction related to this option and no operational impacts have been identified. There is no direct hydraulic continuity between the borehole and the site. The site qualifying features are not directly dependent on groundwater levels or supported surface water flows.	None	None	No Likely Significant Effect
Croydon - increase abstraction within the licence above recent actual volumes	Eversden and Wimpole Woods SAC 4.1 km north east	Barbastelle bat, <i>Barbastella barbastellus</i> . The site comprises a mixture of ancient coppice woodland (Eversden Wood) and high forest woods likely to be of more recent origin (Wimpole Woods). A colony of <i>Barbastella barbastellus</i> is associated with the trees in Wimpole Woods. These trees are used as a summer maternity roost where the female bats gather to	There is no construction related to this option and no operational impacts have been identified. There is no significant direct hydraulic continuity between the borehole and the site. The site qualifying features are not directly dependent on groundwater levels or supported surface water flows. In addition, the qualifying features are a mobile species able to adapt to minor short term temporary	None	None	No Likely Significant Effect

Option	European Site within zone of minor, moderate or major hydrological impact ¹⁴	Qualifying features (European sites)	Potential for effects on qualifying features/ main habitats	Potential likely significant effect of scheme on European site(s) alone?	In combination effects with other options, plans and projects	Conclusion
		<p>give birth and rear their young. Most of the roost sites are within tree crevices. The bats also use the site as a foraging area. Some of the woodland is also used as a flight path when bats forage outside the site.</p>	<p>fluctuations in supporting ecosystem components.</p>			
<p>Kingston - increase abstraction within the licence above recent actual volumes</p>	<p>Eversden and Wimpole Woods SAC 1.4 km south west</p>	<p>Barbastelle bat, <i>Barbastella barbastellus</i>. The site comprises a mixture of ancient coppice woodland (Eversden Wood) and high forest woods likely to be of more recent origin (Wimpole Woods). A colony of <i>Barbastella barbastellus</i> is associated with the trees in Wimpole Woods. These trees are used as a summer maternity roost where the female bats gather to give birth and rear their young. Most of the roost sites are within tree crevices. The bats also use the site as a foraging area. Some of the woodland is also used as a flight path when bats forage outside the site.</p>	<p>There is no construction related to this option and no operational impacts have been identified. There is no significant direct hydraulic continuity between the borehole and the site. The site qualifying features are not directly dependent on groundwater levels or supported surface water flows. In addition, the qualifying features are a mobile species able to adapt to minor short term temporary fluctuations in supporting ecosystem components.</p>	<p>None</p>	<p>None</p>	<p>No Likely Significant Effect</p>
<p>Abstraction at St Ives borehole – recently returned source</p>	<p>Portholme SAC 6.4 km west</p>	<p>Lowland hay meadows (<i>Alopecurus pratensis</i>, <i>Sanguisorba officinalis</i>). This site is the largest surviving traditionally managed lowland hay meadow in the UK. It holds grassland communities of the alluvial flood meadow type. The meadow is surrounded by channels of the River Ouse. In winter and early spring Portholme may become inundated by flood water. The occurrence and duration of this flooding can be very variable. Flooding provides natural fertilising of the soil and it is this seasonal flooding coupled with the traditional management that maintains the diversity of natural plant communities.</p>	<p>There is no construction related to this option and no operational impacts have been identified. There is no significant direct hydraulic continuity between the borehole and the site.</p>	<p>None</p>	<p>None</p>	<p>No Likely Significant Effect</p>

7. Conclusions

7.1 Screening stage

Screening for Likely Significant Effect on European sites overlapping/ located adjacent to the Cambridge Water Draft Drought Plan 2022 area has been carried out as required under European and UK law.

The screening process has concluded that the Draft Drought Plan will not result in a Likely Significant Effect on the interest features on European sites.

7.2 Summary

It is concluded that the Cambridge Water Draft Drought Plan 2022 will have no adverse effect on any European designated sites, either alone or in combination with other Plans or Projects.

7.3 Future updates

Cambridge Water has made allowances in WRMP19 that include presumption of renewal for time-limited licences; and, indicative sustainability reductions to licences for WINEP drivers. The actual reductions to licence volumes, and timings of these are yet to be confirmed and agreed.

Additionally, WRE are investigating a significant number of supply options, including opportunities for new or optimised options across the region and opportunities to transfer water in from neighbouring regions.

When there is a change to the current licensing and resource position, Cambridge Water may need to consider replacing loss to DO or abstraction licences with temporary drought permits to provide additional supplies during drought periods. This would constitute a material change in circumstances and would require a further revised drought plan (and HRA) to be produced within 12 months of publishing the Draft Drought Plan 2022.