



AWS DRAFT DROUGHT PLAN 2027 – SEA

Strategic Environmental Assessment (SEA) Environmental Report

Report for: Anglian Water Services Ltd

Customer:

Anglian Water Services Ltd (Anglian Water)

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Contact:

Rachel Ashmole
Ricardo, Bright Building, Pencroft Way, Manchester,
M15 6GZ, UK

E: Rachel.Ashmole@ricardo.com

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Author:

Ingrid Kintu, Jonathan Briggs, Katie Moran, Charlotte McEnhill

Reviewers

Natalie Way-Jones, Simone Medonos

Approved by:

Rachel Ashmole

Ricardo reference:

ED20685

Date:

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GLOSSARY

Term	Definition
Abstracting	Taking water from the environment (surface or groundwater) for public supply.
Adverse	A negative effect that is important enough in scale, duration or severity to meaningfully harm the environment or receptors.
Appraisal framework table	A table that sets out the assessment objectives, criteria and indicators used to evaluate the likely environmental effects of a plan.
Appropriate Assessment (AA)	The second stage of the Habitats Regulations Assessment process that evaluates whether a plan will have adverse effects on the integrity of a European designated site.
Baseline	The existing environmental conditions against which potential effects are assessed.
Beneficial	A beneficial effect resulting from an action.
Biodegradable municipal waste	The fraction of municipal waste that will decompose within a landfill site to produce methane, a potent greenhouse gas.
Biodiversity	The variety of living organisms, including species, habitats and ecosystems.
Communication campaigns	Public-facing activities designed to inform customers about drought conditions and encourage water-saving behaviours.
Cumulative effects assessment	An assessment of the combined effects of multiple actions or pressures over time.
Demand actions	Actions that reduce water use, such as restrictions, metering or communication campaigns.
Drought actions	All actions that may be taken during drought, including demand, supply, drought-permit and extreme actions.
Drought levels drought levels 1–4.	The staged escalation of drought severity, with Level 4 representing the most extreme conditions requiring the most intensive actions.
Drought permit	An authorisation granted by the Environment Agency (England) or Natural Resources Wales (for sites in Wales) under drought conditions which allows for abstraction/impoundment outside the schedule of existing licences on a temporary basis.
Ecosystem services	The benefits obtained from natural ecosystems.
Emergency drought orders	A legal measure that allows a water company to introduce emergency restrictions on water use when supplies are critically low after an extended period of drought conditions.
Environmental effects	The beneficial or adverse changes to the environment that result from the implementation of a plan.
Environmental report	The main output of the SEA, presenting the assessment of environmental effects.
Extreme actions	Actions used only in the most severe drought conditions when all other actions are insufficient.
Flood Zone 1	Low probability of river or sea flooding (<0.1%) which has critical drainage problems

Term	Definition
Flood Zone 2	Medium probability of river (1%-0.1%) or sea flooding (0.5%-0.1%)
Flood Zone 3a	High probability of river (>1%) or sea flooding (>0.5%)
Flood Zone 3b	Functional floodplain
Flora and fauna	Plants (flora) and animals (fauna) within an ecosystem.
Geology	The physical structure, composition and history of rocks and earth materials.
Greenhouse gas emissions	Gases released to the atmosphere that contribute to climate change, such as carbon dioxide.
Habitats Regulations Assessment (HRA)	A process used to determine whether a plan could have adverse effects on protected nature conservation sites, such as Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Ramsar sites
Hands-off Flow (HOF)	A minimum river flow below which abstraction must stop to protect the environment.
Internal or external transfers	Movement of water between water resource zones (internal) or between different water companies (external).
Land use	The way land is managed and allocated for different functions.
Landscape	The character and appearance of an area, shaped by the interaction of natural features, landforms, vegetation and human influences.
Losses	Water lost from the system through leakage or operational processes.
Material assets	Physical resources such as infrastructure, buildings, equipment and land.
Metering	The installation and use of water meters to measure consumption.
Minimum Residual Flow (MRF)	The minimum flow that must be maintained in a river or watercourse to protect the environment, aquatic habitats, and downstream users.
Mitigation	The actions taken to avoid, reduce, or offset the adverse environmental effects of a plan.
Monitoring	Ongoing measurement of environmental conditions to track impacts and compliance.
Natural capital	The stocks of natural resources such as water, soils, air, minerals, habitats and species that provide the ecosystem services.
Non-Essential Use Bans (NEUBs)	Restrictions on commercial or industrial water uses that are not essential for health or safety.
Objectives	The environmental aims used in the SEA to guide assessment.
Optimising network pressure	Adjusting water pressure in the distribution network to reduce leakage and demand.
Overland pipeline installation	Temporary above-ground pipelines used to move water during drought.
Pressure management	Operational changes to reduce water pressure and minimise leakage.

Term	Definition
Residual	The remaining environmental effect after embedded design mitigation and standard good practice has been applied.
Resource use	The consumption of natural resources such as water, energy or materials.
Reversible	An effect that can be undone once the action stops.
Satellite boreholes	Additional groundwater sources developed near existing boreholes to increase supply.
Scoping report	The SEA document that defines the scope, methods and topics to be assessed.
Sensitive protected sites	Designated areas such as Site of Special Scientific Interest (SSSI), SAC, SPA or Ramsar sites that require special protection.
Site of Special Scientific Interest (SSSI)	A nationally designated site protected for its important wildlife, habitats or geological features.
Special Areas of Conservation (SAC)	A site designated for the protection of internationally important habitats and species under the Habitats Regulations
Special Protection Areas (SPA)	A site designated for the protection of internationally important bird species and their habitats under the Habitats Regulations.
Strategic Environmental Assessment (SEA)	The statutory process used to assess the environmental effects of plans and programmes.
Supply actions	Actions that increase the amount of water available for use.
Sustainability reduction	In some cases, water company abstractions have been found to cause, or have the potential to cause, environmental harm. As a result, the company may be required to reduce the amount of water they can abstract from the environment. If this reduces the amount of water available to put into supply, then it is known as a sustainability reduction.
Tankering	Transporting water by tanker to support supply during drought.
Tariffs	Pricing structures used to influence water consumption
Temporary Use Bans (TUBs)	Restrictions on domestic water uses such as hosepipes.
Triggers	Indicators used to determine when drought actions should be implemented.
Wastewater	Used water that requires treatment before discharge or reuse.
Water efficiency	Measures that reduce water consumption through behaviour change or technology.
Water Framework Directive	Legislation that requires all surface waters and groundwater bodies to be protected from deterioration and to achieve good ecological and chemical status.
Water Resource Management Plan 2024 (WRMP24)	A water company's long-term plan for balancing supply and demand.
Water Resource Zones (WRZs)	Geographical areas within which water supply is managed as a single integrated system. WRZs represent an area within which managing supply and demand for

Term	Definition
	water resources is largely self-contained. The definition of a WRZ (from UKWIR, 2012) is: 'The largest possible zone in which all resources, including external transfers, can be shared and hence the zone in which all customers will experience the same risk of supply failure from a resource shortfall'.
Water treatment	Processes used to make water safe and suitable for drinking.

NON-TECHNICAL SUMMARY

BACKGROUND

Anglian Water Services Ltd (Anglian Water) must by law prepare a Drought Plan. The previous Anglian Water Drought Plan (DP) was published in 2022 (Anglian Water Services, 2022), covering the period 2022 to 2027. Every 5 years, Anglian Water must update their Drought Plan to consider the latest drought actions, environmental baseline information, responses received during consultation, and changing law and policy. DP27 sets out how Anglian Water will supply water to customers during drought from 2027 to 2032 while avoiding, reducing or mitigating environmental impacts. DP27 ensures that decisions on drought actions are transparent and respond to drought conditions.

Under UK law, Drought Plans need to include a Strategic Environmental Assessment (SEA) and may also need to include a Habitats Regulations Assessment (HRA) screening and Appropriate Assessment (AA), supported by detailed Environmental Assessment Reports (EARs) for the drought permit actions.

The Drought Plan includes a range of drought management actions that would only be implemented if and when required. Because each drought differs in severity, timing, duration and geographic extent, the plan must include a flexible suite of actions. Within the SEA, the environmental performance of each of these actions has been assessed, and is intended to make the decision-making process more transparent. The SEA can, therefore, be used to support the timing, prioritisation and implementation of drought actions within the Drought Plan.

Anglian Water: Water Resources and Supply System

Anglian Water is the largest water and wastewater company in England and Wales by geographic area and is divided into 27 Water Resource Zones (WRZs), which are specific areas used to help plan and manage water supply. The Hartlepool Water Resource Zone (WRZ) is geographically separate from Anglian Water's main supply area (see **Figure NTS 1**). Although no drought permits apply to this zone, all other drought actions, including demand actions, standard supply actions and extreme demand and supply actions, will be implemented in the Hartlepool WRZ as required.

Anglian Water supply water and water treatment to more than seven million customers in one of the driest regions in the UK. Anglian Water must plan for future water supply based on population growth, climate change, and the need to prepare for future droughts.

The Anglian Water supply area is bounded to the north by the Humber Estuary and extends west to Northampton and Milton Keynes. The East of England is the driest region in the UK with low rainfall and high evaporation losses. The region is designated by the Environment Agency as an area of serious water stress and opportunities for new water resources are limited. The region is predominantly agricultural and is a nationally important area for food production.

The Anglian Water SEA study area spans four NUTS (nomenclature of territorial units for statistics) regions; the East of England, East Midlands, South East and Yorkshire and The Humber, however most of the study area is contained within the first two. The baseline information has been presented at local, regional, national and international levels where possible for comparative reasons and to aid the assessment:

- **Local:** The baseline within the Anglian Water supply area or within a specific WRZ. These data are usually sourced directly from Anglian Water. Spatial analysis also allows the presentation of data that lie within the Anglian Water supply area or drought action area.
- **Regional:** The baseline in the counties or regions that the Anglian Water supply region and the drought action areas cover. The Anglian RBMP is a valuable source of information that includes the Anglian Water supply region as well as the remainder of the SEA study area.
- **National:** The baseline for the UK, England or in some cases the combined baseline for the two main regions that the Anglian Water supply region intersects.
- **International:** The baseline at the international scale, drawing on datasets and designations that extend beyond the UK and global climate or biodiversity indicators.

Anglian Water prepared a Water Resource Management Plan 2024 (WRMP24) (Anglian Water, 2024a) which sets out their plan to maintain a sustainable and secure supply of drinking water for customers over the period

of 2025 to 2050. While DP27 focuses more on short-term actions during droughts, the two Plans work together to help prepare for droughts and to protect water supplies.

DROUGHT ACTIONS

DP27 drought actions are similar to those presented in the 2022 Drought Plan (DP22) although there have been some changes. Water companies in England, including Anglian Water, use drought levels (or drought stages) to guide their response based on specific triggers, such as drops in water levels in reservoirs, rivers, or groundwater sources.

During droughts, Anglian Water first needs to try and reduce the amount of water used by customers (demand), before using other drought actions such as supply actions which require taking (abstracting) more water from rivers, groundwater sources or reservoirs.

DP27 has 3 groups of drought actions:

1. **Demand actions** – these actions try to reduce the amount of water that people and businesses use.
2. **Supply actions** – these actions increase the amount of water available from existing sources where this is possible. There are two types of supply actions:
 - Standard supply actions.
 - Drought permits.
3. **Extreme actions** – these actions are only used in the worst types of droughts.

Demand Actions

Most demand actions already take place under normal conditions but are strengthened in drought levels 1–4. These include:

- Communication campaigns and messaging.
- Water efficiency activities.
- Customer metering.
- Targeted leakage reduction.
- Pressure optimisation.
- Tariffs.

As drought conditions worsen, Anglian Water may introduce more severe drought actions such as:

- Temporary Use Bans (TUBs) – for example, banning hosepipe use.
- Non-Essential Use Bans (NEUBs) – restricting commercial or industrial uses.
- Emergency Drought Orders – allowing cuts to water supply, only in extremely rare situations.

Supply Actions

Standard supply actions make the best use of existing water sources and licences. They include:

- River augmentation and support.
- Alternative river abstraction sources.
- Supply system optimisation and conjunctive use.
- Source commissioning, maintenance and rehabilitation.
- Tankering.
- Internal and external transfers
- Loss reduction

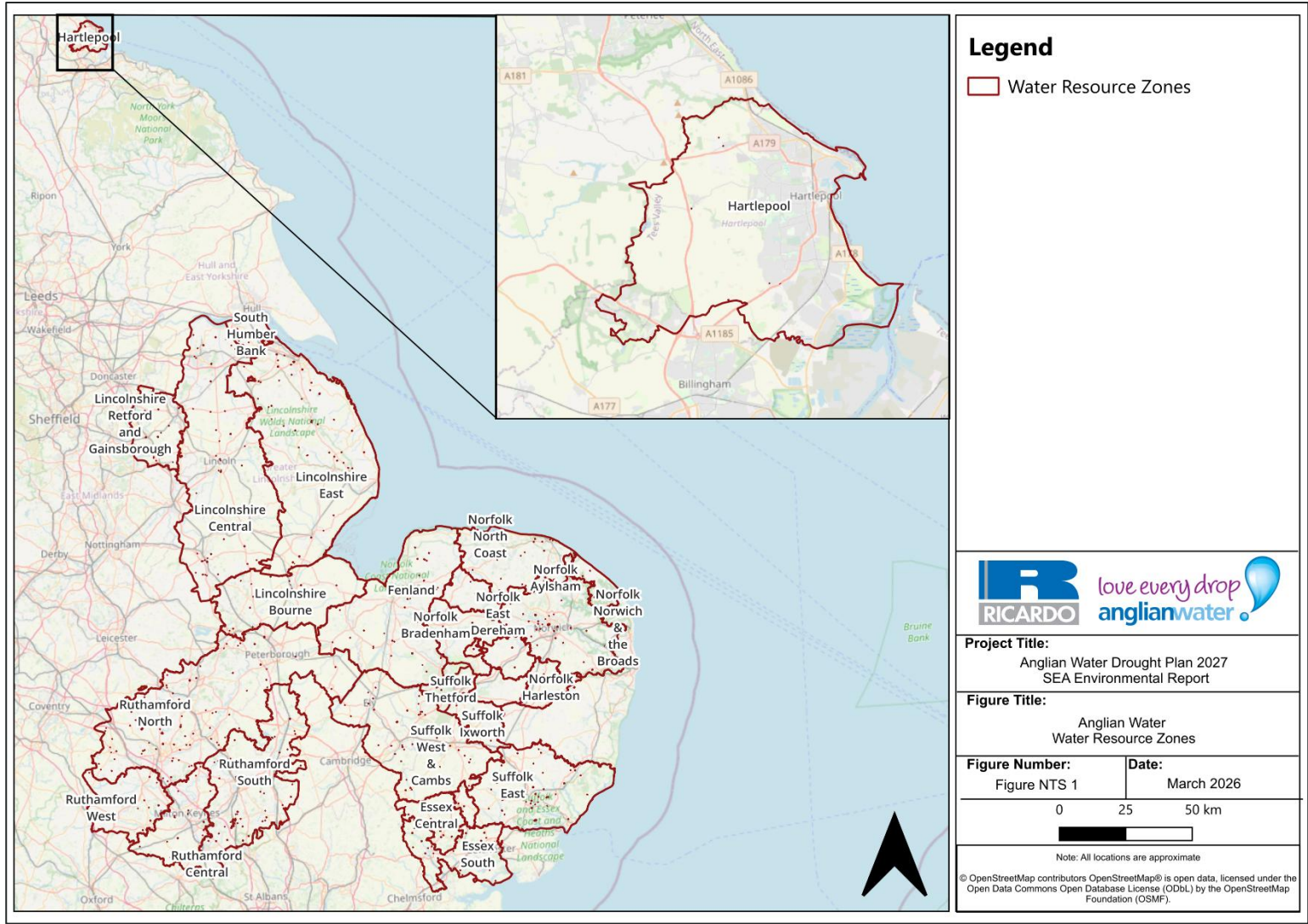


Figure NTS 1: Anglian Water's Water Resource Zones

Some supply actions within Anglian Water’s DP27 require a drought permit, which allows Anglian Water to temporarily abstract more water during drought. These supply actions were assessed in the previous Drought Plan, and relate to the greater use of rivers and reservoirs as well as groundwater sources:

- River Nene (Pitsford Water) – Temporary reduction of the Minimum Residual Flow (MRF) at Duston Mill to allow more winter or summer refilling of Pitsford Water.
- River Nene (Rutland Water) – Reduction of the MRF at Wansford to support refilling Rutland Water. 50% reduction in the MRF to 62.5 Ml/d during winter and 75 Ml/d during summer.
- River Gt Ouse (Grafham Water) – Two-stage permit allowing increased abstraction above the current MRF, or a 50% MRF reduction.
- Lower Colne (Ardleigh Reservoir) – Two options, allowing the increase of augmentation, or increasing groundwater abstraction for public water supply. Both options could be implemented at the same time.
- Wellington Wellfield (Stoke Ferry & Marham Water Treatment Works, WTW) – Increasing groundwater abstraction from local groundwater sources.
- Costessey (Heigham WTW) – Increasing annual groundwater abstraction from the Costessey groundwater source.
- River Trent (Hall WTW) – Lowering the Hands-Off Flow (HOF) to allow abstraction when river levels are low.

EARs have been prepared for these drought permit actions and are available on request. These supply actions are only implemented if agreed with the Environment Agency and would be managed carefully to reduce environmental impacts.

Some supply actions have environmental effects beyond the Anglian Water supply area as shown in **Figure NTS 2**, and these areas have also been considered in the SEA.

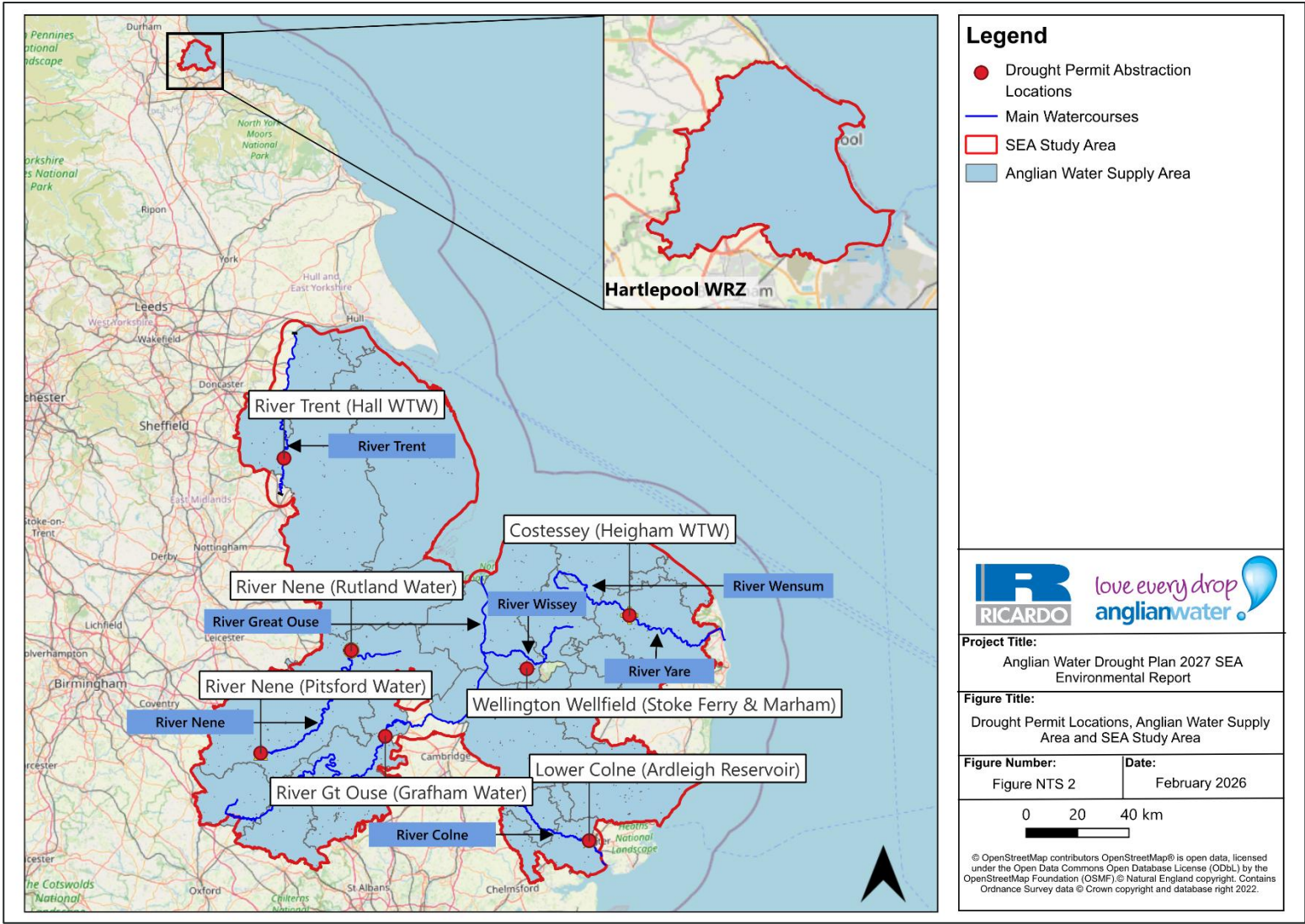


Figure NTS 2: Location of the DP27 Drought Permit supply actions

Extreme Actions

Extreme actions are only considered if conditions become so severe that further reductions above standard demand and supply actions and drought permit/orders are required. Anglian Water tracks and identifies drought risk early, allowing time for environmental assessment before any of these extreme actions are used. The extreme actions included in DP27 are listed in **Table NTS 1** below.

Table NTS 1: Extreme Actions included in DP27

Action type	Actions
Extreme demand actions	• Extreme Communications Plan • Extreme Water Efficiency & Customer Metering • Tariffs • Extreme Pressure Management • Extreme Targeted Leakage reduction • Removal of exceptions
Extreme supply actions	• Groundwater ○ Lower borehole pumps or increase size of borehole pump ○ Increase borehole depth ○ Satellite boreholes ○ Recommissioning / Commissioning out-of-service boreholes ○ Use of 3rd party boreholes ○ Repurpose river support boreholes • River Support • Drought Permit and Orders • Temporary Treatment ○ UV disinfection ○ Nitrate removal and / or blending ○ Iron / Turbidity removal • Water Recycling ○ Advanced water recycling, diverting recycled water so that it can support an existing abstraction point ○ Water re-use, diverting recycled water to support other water users • Overland pipes • Tankering • Utilising other significant water bodies • Supply schemes • Resource trading and transfers • Loss Reduction

Trent-Witham-Ancholme Scheme (TWAS)

The Environment Agency has a Drought Order to increase flows in the Trent-Witham-Ancholme Scheme (TWAS) system to support Anglian Water's abstraction at Cadney. This action would only be considered in the most extreme drought and has not been assessed in the SEA.

THE SEA PROCESS

Anglian Water published their SEA scoping report in December 2024 and invited statutory consultees including the Environment Agency, Natural England, and Historic England for their views on what should be considered in the SEA. These responses, shown in **Appendix C**, helped shape this Environmental Report.

The SEA compares the environmental effects of the individual drought actions to enable Anglian Water to determine the best drought response. It also shows the combined impact of drought actions with other projects and plans (cumulative effects assessment). The Drought Plan includes steps to be taken to reduce or avoid environmental effects (mitigation) and shows how the impacts of drought actions will be measured over time (monitoring).

Drought actions were checked against a list of SEA objectives which were based on specific environmental problems identified, law and policy, issues that were raised by the public or organisations, or based on information for the area that Anglian Water serves. DP27 looks at impacts of the drought actions on:

- Biodiversity, Fauna and Flora
- Population and Human Health
- Material Assets and Resource Use
- Water
- Soil, Geology and Land use
- Air and Climate
- Archaeology and cultural heritage
- Landscape and visual amenity

The drought actions were assessed using a set of standard questions under each objective. The assessment is presented in table format (called the appraisal framework table), which shows the adverse (negative) or beneficial (positive) effects, considering any mitigation (measures to reduce or avoid impacts). This Report includes a colour-coded dashboard summary for easy comparison of the drought actions. Impacts are rated based on significance from 'major beneficial' to 'major adverse'. Major to moderate effects are most important for decision-making. Effects that are rated neutral, negligible, minor beneficial or minor adverse are considered non-significant, and less important for decision-making.

Summary of Impacts of Drought Actions

Demand actions such as fixing leaks, installing meters, public notices to save water, and helping people use water wisely, generally benefit the environment by reducing how much water is taken from rivers and groundwater. Any negative impacts, such as extra vehicle trips or energy use, are minor. Tariffs and pressure management can cause some short-term inconvenience for certain businesses or local areas but still help cut waste over time. Stronger actions, such as hosepipe bans (TUBs) and limits on NEUBs, can affect gardens, leisure and some industries. Emergency Drought Orders have the biggest negative impacts, but they are only used to protect essential water supplies when no other options are possible.

Most **standard supply actions** have very small negative impacts because they use existing pumps, pipelines and licences. These actions avoid major construction, so any disturbance is usually limited to short-term vehicle movements, minor operational changes or small increases in emissions. Using alternative water sources, supporting river flows, and moving water between areas all help keep rivers healthier and ensure homes and businesses still have water during drought, with only low-level environmental effects. Drought actions like reducing losses, improving how the network is operated and using different sources of water have the biggest benefits, lowering the pressure on rivers and groundwater and helping wildlife, recreation and communities. Actions that involve small construction works, such as bringing a source back online, carrying out maintenance, or tankering, cause short-term disturbance but still play an important role in keeping supplies secure during drought.

Seven drought permit actions were assessed: River Nene (Pitsford Water), River Nene (Rutland Water), River Gt Ouse (Grafham Water), Lower Colne (Ardleigh Reservoir), Wellington Wellfield (Stoke Ferry & Marham WTW), Costessey (Heigham WTW) and River Trent (Hall WTW). Across the actions, environmental effects are temporary, localised and fully reversible, occurring only during periods of drought. The most sensitive locations are the **River Nene (Rutland Water)** and **River Gt Ouse (Grafham Water)** permits, where reduced

flows lead to moderate to major adverse effects on designated sites, protected species and WFD status. The **Wellington Wellfield (Stoke Ferry & Marham WTW)** permit also results in moderate to major adverse effects on groundwater-dependent habitats due to temporary drawdown. **River Nene (Pitsford Water)** also shows notable seasonal risks, with moderate adverse effects on biodiversity, major orthophosphate risks in summer, and major navigation impacts, although winter effects are less pronounced. Other permits, **Costessey (Heigham WTW)**, **Lower Colne (Ardleigh Reservoir)** and **River Trent (Hall WTW)**, show negligible to minor adverse effects, with no significant impacts on designated sites and only small, short-term hydrological or water-quality changes. Several actions provide minor ecological benefits, such as supporting reservoir Site of Special Scientific Interest (SSSI) levels or improving wetted habitat locally. All permits deliver clear benefits for population and human health, strengthening drought resilience and maintaining essential water supplies. Supply benefits range from moderate contributions (e.g., Wellington Wellfield (Stoke Ferry & Marham WTW), River Nene (Pitsford Water), Costessey (Heigham WTW) and Lower Colne (Ardleigh Reservoir) to major increases in supply (e.g., River Nene (Rutland Water), River Gt Ouse (Grafham Water) and River Trent (Hall WTW)). Recreational, heritage, landscape, air-quality and greenhouse-gas effects are consistently negligible, reflecting the absence of construction and the short-term nature of the actions.

Extreme demand actions, such as urgent communications, extra water-saving support and increased metering, have only small negative impacts but provide strong benefits by helping people use less water and protecting the environment. Tariffs, tighter pressure control and intensive leakage repairs can create moderate challenges for some households and businesses, though environmental effects stay minor. Removing exceptions has the biggest downsides, affecting gardens, recreation and water-reliant sectors, but may be necessary in extreme droughts to protect essential supplies.

Extreme supply actions generally cause short-term minor to moderate disturbance while greatly improving water availability, with advanced recycling and temporary treatment offering the strongest benefits.

MITIGATION AND MONITORING

Anglian Water must decide on steps to be taken to avoid and reduce environmental impacts, known as mitigation. Where these steps are known, these have been considered and the remaining (residual) effects have been reported in this Report. In addition, Anglian Water has committed to tracking (monitoring) the environmental effects of the drought actions over time in the Environmental Monitoring Plan (EMP) which forms part of the Drought Plan.

HOW ENVIRONMENTAL CONSIDERATIONS INFLUENCED THE DEVELOPMENT OF THE DROUGHT PLAN

The SEA compared the potential environmental effects of each drought action, providing evidence to support decisions on the selection and sequencing of actions. Mitigation measures identified through the SEA, the Environmental Assessment Reports (EARs) and the HRA have been incorporated into the plan to minimise impacts on receptors, including rivers, designated sites, species and local communities. The SEA also considered potential cumulative effects with other plans and projects.

CONSULTATION

The SEA Environmental Report will be published for consultation, alongside the DP27. Following consultation, the SEA Environmental Report will be updated to reflect consultation comments and any changes between the draft and final DP27.

1. INTRODUCTION

1.1 BACKGROUND

Anglian Water Services Ltd (Anglian Water) is required to prepare and maintain a statutory Drought Plan (DP) and to review and update it at least every five years. This is in terms of Sections 39B and 39C of the Water Industry Act 1991, as amended by the Water Act 2003 and in accordance with the Drought Plan Guideline (DPG) 2025 (Defra, 2025a) and the Drought Plan (England) Direction (Defra, 2025b).

Anglian Water published its current statutory Final Drought Plan in April 2022 (DP22). Anglian Water is currently preparing its Drought Plan 2027 (DP27) for the period 2027-2032, anticipated to be submitted to the Secretary of State via Defra by 31st March 2026, with the Final Drought Plan expected to be published in early 2027 following consultation and approval.

It has been determined through screening that both a Strategic Environmental Assessment (SEA) and a Habitats Regulations Assessment (HRA) are required for the preparation of DP27. SEA is a statutory requirement under the Environmental Assessment of Plans and Programmes Regulations 2004 (the “SEA Regulations”) (UK Government, 2004). The objective of SEA is to ensure that environmental considerations are integrated into the preparation and adoption of the Drought Plan and assists in identifying, describing and evaluating the likely significant environmental effects of implementing drought actions, and in identifying appropriate mitigation measures.

In this report, the term ‘actions’ refers to interventions undertaken by water companies to prepare for, respond to, and recover from drought conditions.

1.2 APPLICATION OF SEA TO DROUGHT PLANNING

SEA is a statutory requirement under the SEA Regulations (UK Government, 2004) and its objective is to:

“provide for a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans with a view to promoting sustainable development”.

The SEA Regulations require the preparation of an Environmental Report that identifies, describes and evaluates the likely significant environmental effects of implementing the plan or programme, as well as reasonable alternatives, taking into account the plan or programme's objectives and geographical scope.

As stated in the Office of the Deputy Prime Minister (ODPM) SEA Guidelines (ODPM, 2005):

“It is not the purpose of the SEA to decide the alternative to be chosen for the plan or programme. This is the role of the decision-makers who have to make choices on the plan or programme to be adopted. The SEA simply provides information on the relative environmental performance of alternatives and can make the decision-making process more transparent.”

The SEA can support Anglian Water in deciding the timing, prioritisation and implementation of drought actions. The SEA methodology follows SEA guidance [ODPM, 2005; UK Water Industry Research (UKWIR), 2021], including the updated 2025 Drought Plan Guideline (Defra, 2025).

Drought Plans offer a suite of drought actions that could be implemented in response to drought conditions. Due to the unpredictable nature of drought events, the sequencing and timing of these actions over the lifetime of the plan is uncertain, especially where there are several drought actions available for a Water Resource Zone (WRZ). Droughts vary in severity, seasonality, geographic extent, duration, and the influence of other abstractors within the catchment. As a result, each drought event requires a bespoke sequence and combination of actions.

The SEA assesses each drought action individually to allow for comparative assessment to support decision-making. The SEA also includes a cumulative effects assessment in **Section 6** based on assumptions on sequencing and timing as well as the combinations with other plans and projects.

1.3 ANGLIAN WATER'S WATER SUPPLY SYSTEM

Anglian Water is the largest water and wastewater company in England and Wales by geographic area and is divided into 27 WRZs (see **Figure 1-1**). It stretches from the Humber north of Grimsby, to the Thames Estuary and then from Buckinghamshire to Lowestoft on the east coast, and also includes the Hartlepool area.

Anglian Water supply water and water recycling services to more than seven million customers in the East of England and Hartlepool (Anglian Water, 2025). The East of England is one of the driest regions in the UK, receiving only two thirds of the UK's average rainfall each year, approximately 600mm, with high evaporation losses (Anglian Water, 2024a). Water supply is under pressure from population growth, climate change, sustainability reductions, and there is a need to increase resilience of water supplies to prepare for severe drought.

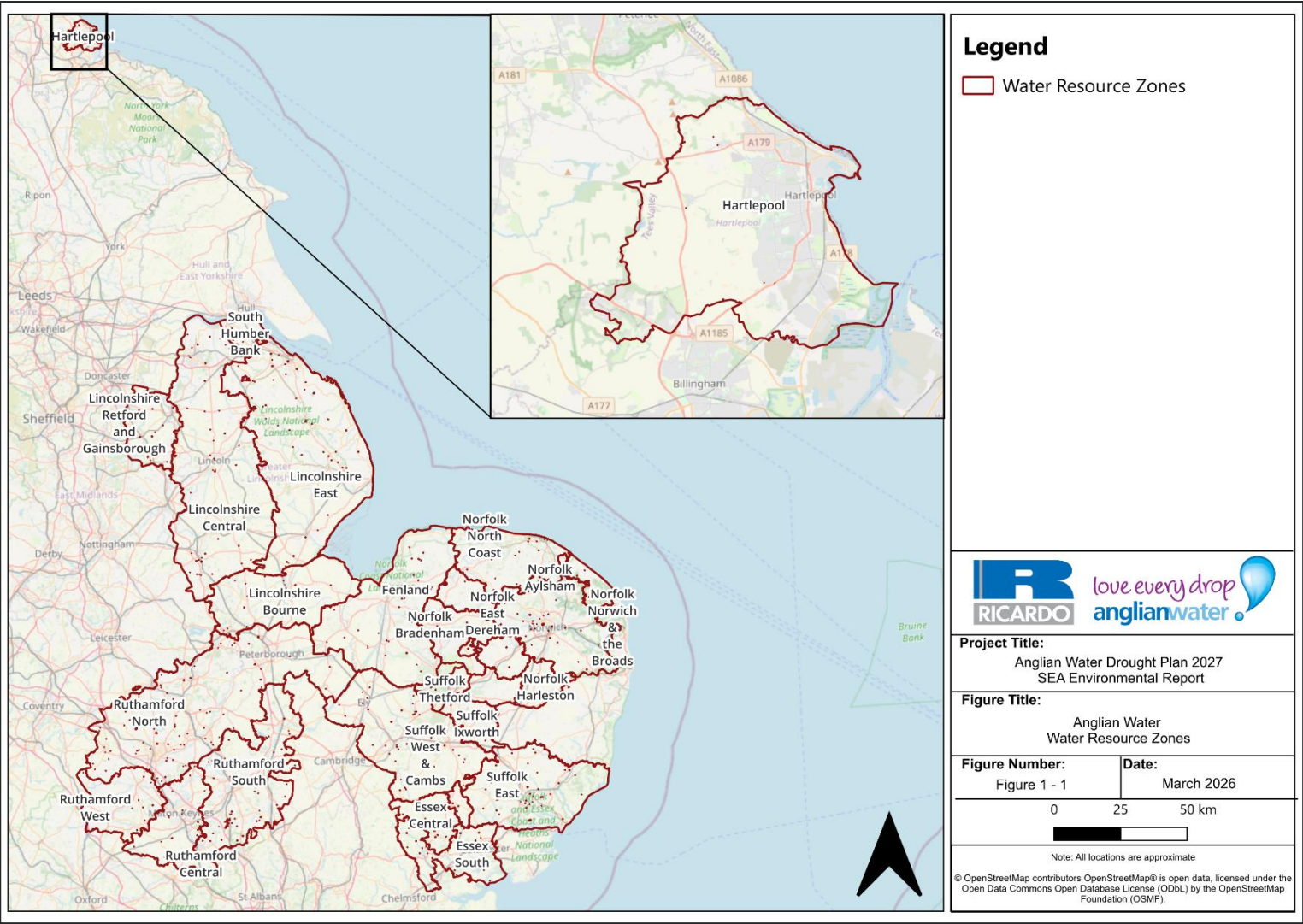


Figure 1-1: Anglian Water's Water Resource Zones

1.4 DROUGHT ACTIONS

For the DP27, Anglian Water has identified triggers that act as decision points for implementing drought actions. These are referred to as drought levels (Levels 1, 2, 3a, 3b, and 4) in accordance with the 2025 DPG. Drought levels vary for each WRZ, and the nature of the drought management actions associated with each drought level varies depending on the prevailing situation. Drought actions could be applied either company-wide, by WRZ, or to target a specific geographic area, depending on the nature of the drought.

DP27 includes 3 types of drought actions available to Anglian Water :

- Demand actions.
- Supply actions.
 - Standard supply actions.
 - Supply actions implemented through drought permits.
- Extreme actions.
- Extreme demand actions.
- Extreme supply actions.

During a drought, Anglian Water's first priority is to reduce demands on water before considering supply actions, such as optimising existing abstractions, or planning new infrastructure or upgrading and modifying existing infrastructure. The following sections provide more detail on the drought actions proposed in DP27.

1.4.1 Demand actions

Demand actions follow a three-tiered strategy focused on smart metering, leakage reduction and water efficiency. Most actions will be initiated under business-as-usual (BAU) conditions and are then intensified through drought levels (1–4). Demand actions can be implemented proactively, if required. These include:

- Communication campaigns and messaging.
- Water efficiency activities.
- Customer metering.
- Targeted leakage reduction.
- Pressure optimisation.
- Tariffs.

The more severe demand actions include:

- Temporary Use Ban (TUBs).
- Non-essential Use Ban (NEUBs).
- Emergency drought orders.

Anglian Water may implement Emergency Drought Orders (Severe Restrictions) to temporarily supply water by means of rota cuts. Emergency Drought Orders may be introduced in the event of an exceptional drought, in consultation and liaison with the Department for Environment, Food and Rural Affairs (Defra), the Environment Agency, local authorities and the Consumer Council for Water. This situation would be extremely unlikely to occur based on records of previous drought events in the Anglian Water Supply Area.

1.4.2 Supply actions

1.4.2.1 Standard supply actions

The standard supply actions proposed within DP27 help optimise water availability within existing abstraction licences. These are:

- River augmentation and support.
- Alternative river abstraction sources.
- Supply system optimisation and conjunctive use.
- Source commissioning, maintenance and rehabilitation.

- Tankering.
- Internal and external transfers.
- Loss reduction.

Supply actions may conserve or increase the volume of water stored in reservoirs for supply during a drought. These actions include both surface water and groundwater sources.

1.4.2.2 Drought Permits

Drought permits may be used to increase allowable abstraction at existing sources to supplement water supplies and reservoir storage. Drought permits may only be authorised for specified six-month periods (typically winter or summer), with limitations on renewal periods. DP27 includes seven supply actions that would require a drought permit (see **Table 1-1** and **Figure 1-2**). These actions were included in the previous DP22.

Detailed Environmental Assessment Reports (EARs) have been prepared for each of the supply actions requiring a drought permit. These EARs have informed the SEA and HRA. The EARs have been developed in consultation with the Environment Agency, Historic England and Natural England and are updated when drought permit applications are prepared.

Table 1-1: Supply Actions requiring a Drought Permit

DP27 Name	Type	Description
River Nene (Pitsford Water) Drought Permit	Surface Water	The proposed drought permit will take the form of a winter or summer authorisation to allow increased filling of Pitsford Water through a reduction of up to 50% of the Minimum Residual Flow (MRF) which controls abstraction at Duston Mill intake. This assessment is based on a temporary reduction in the MRF from the current abstraction licence flow of 34.1 MI/d to 17.05 MI/d during the period from October to March (inclusive) for a winter permit, and during the period April to September (inclusive) for a summer permit.
River Nene (Rutland Water) Drought Permit	Surface Water	The proposed drought permit will take the form of a winter or summer authorisation to allow increased refilling of Rutland Water through a 50% reduction in the MRF which controls abstraction at Wansford intake. It has been assumed that maximum abstractions (763 MI/d; 180,000 MI/yr) would remain unchanged from those currently licensed, therefore the assessment is based on a reduction in MRF from 125 MI/d for December to April and 150 MI/d for May to November to 62.5 MI/d for December to April and 75 MI/d for May to November.
River Gt Ouse (Grafham Water) Drought Permit	Surface Water	The proposed drought permit at Offord may take the form of a winter or summer authorisation to allow increased refilling of Grafham Water through an increase in the proportion of flow above the MRF that can be abstracted or a 50% reduction in the MRF. The current licence allows abstraction of 75% of flow in excess of the MRF, subject to licence and pump capacity constraints. It is proposed that a drought permit would be considered in two stages: • Stage 1: Existing MRF, abstraction at up to 100% of the flow in excess of the MRF • Stage 2: Reduced MRF, abstraction at up to 75% of the flow in excess of the MRF
Lower Colne (Ardleigh Reservoir) Drought Permit	Groundwater	The proposed drought permit involves increasing licensed abstraction at Balkeine by 3MI/d (6MI/d to 9MI/d), only to provide additional augmentation to the River Colne. The daily licence rates for Aldham and Cooks Mill stay the same i.e. for the transfer of water directly into the supply system at up to 6MI/d. Increasing the instantaneous, annual and group licence conditions will support the use of a permit for up to 6 months

DP27 Name	Type	Description
Wellington Wellfield (Stoke Ferry & Marham WTW) Drought Permit	Groundwater	The proposed drought permit is to increase the daily licensed abstraction of the Wellington Wellfield and Denton Lodge groundwater sources by up to 2.726 MI/d to a maximum total output of 25 MI/d. The permit will be for up to 6 months. The current daily licence conditions are noted below: - Wellington Wellfield - 15 MI/d - Denton Lodge - 7.274 MI/d The maximum volume to make up the 25 MI/d is: - Wellington Wellfield - from 15 MI/d to 17.726 MI/d - Denton Lodge - from 7.274 MI/d to 10 MI/d The extra 2.726 MI/d will likely come from a combination of the Wellington Wellfield and Denton Lodge sources.
Costessey (Heigham WTW) Drought Permit	Groundwater	The proposed drought permit involves an increase in the maximum annual abstraction from the Costessey groundwater source from 2000MI/yr to 4800MI/yr (equivalent to 13.15MI/d). Although the daily licensed rate for the groundwater source is 30MI/d, the current maximum operational abstraction rate is 24MI/d and implementation of a drought permit would be within this limit.
River Trent (Hall WTW) Drought Permit	Surface Water	This proposed permit would allow abstraction from the River Trent for Hall WTW by temporarily reducing the Hands-Off Flow (HOF) from 1,700 MI/d to 1,450 MI/d. This would enable abstraction to continue during periods of low flow.

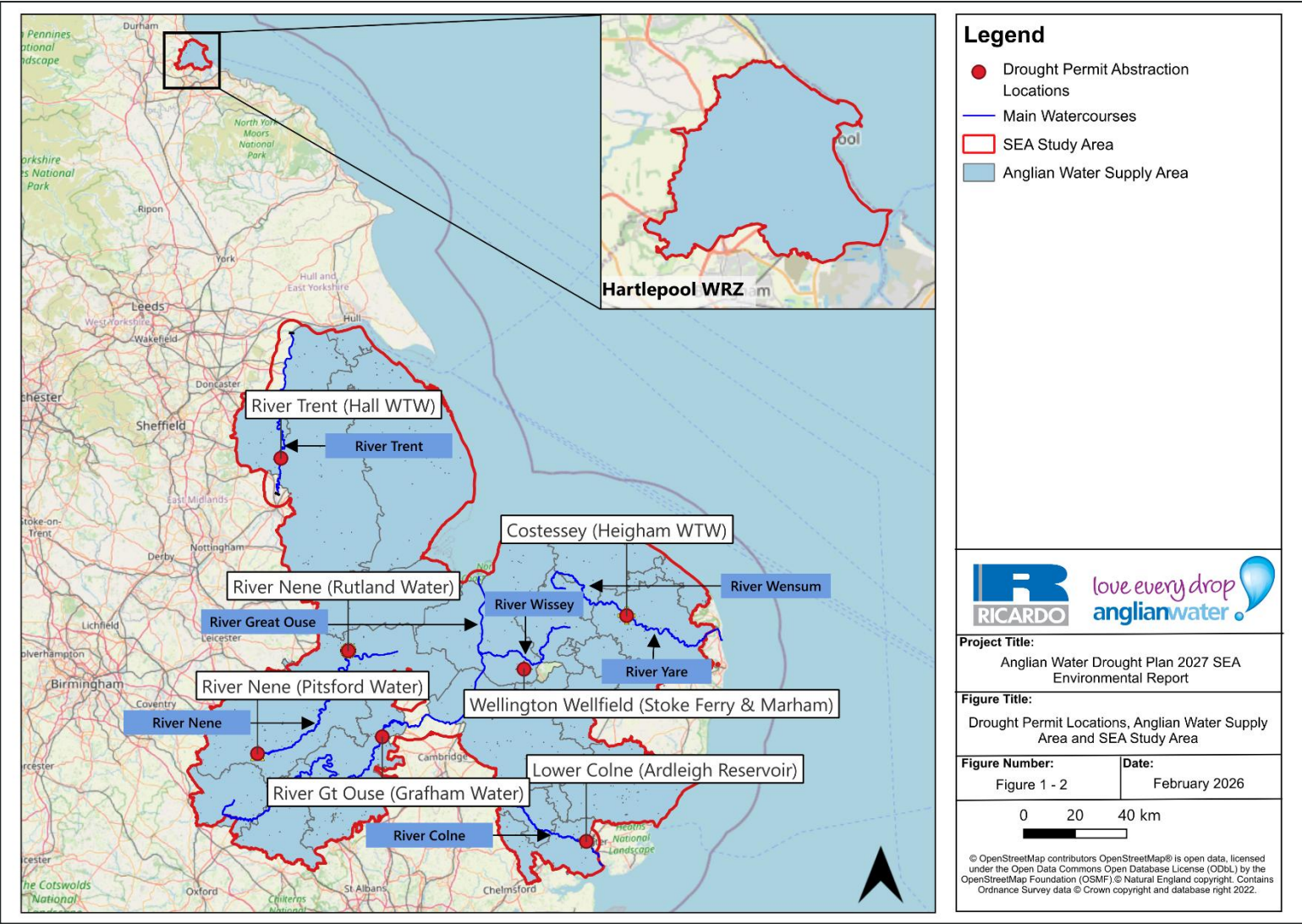


Figure 1-2: Location of Drought Permit supply actions

1.4.3 Extreme Actions

There are extreme demand actions and extreme supply actions in DP27 (see **Table 1-2**). These drought actions are broad in nature and their specific locations, extent and footprints have not yet been developed. However, they have been assessed within the SEA using the information available.

Table 1-2: Extreme Actions included in DP27

Action type	Actions
Extreme demand actions	• Extreme Communications Plan • Extreme Water Efficiency & Customer Metering • Tariffs • Extreme pressure management • Extreme Targeted Leakage reduction • Removal of exceptions
Extreme supply actions	• Groundwater ○ Lower borehole pumps or increase size of borehole pump ○ Increase borehole depth ○ Satellite boreholes ○ Recommissioning / Commissioning out-of-service boreholes ○ Use of 3rd party boreholes ○ Repurpose river support boreholes • River Support • Drought Permit and Orders • Temporary Treatment ○ UV disinfection ○ Nitrate removal and / or blending ○ Iron / Turbidity removal • Water Recycling ○ Advanced water recycling, diverting recycled water so that it can support an existing abstraction point ○ Water re-use, diverting recycled water to support other water users • Overland pipes • Tankering • Utilising other significant water bodies • Supply schemes • Resource trading and transfers • Loss Reduction

1.4.4 Trent-Witham-Ancholme scheme (TWAS)

Within Anglian Water's supply area, the Environment Agency holds a potential drought order that could increase the TWAS transfer to support abstraction on the River Ancholme at Cadney. Anglian Water and the Environment Agency would consider this drought action only in exceptional, extreme-drought circumstances. Therefore, this action has not been assessed in the SEA.

1.5 STUDY AREA

The SEA study area (**Figure 1-2**) is defined based on Anglian Water's overall supply area as well as the Zone of Influence (Zol) of the drought permit actions identified in the EARs. The Hartlepool WRZ is geographically separate from Anglian Water's main supply area. Although no drought permits apply to this zone, all other drought actions, including demand actions, standard supply actions and extreme demand and supply actions, will be implemented in the WRZ as required and therefore has also been considered in this SEA.

Figure 1-2 highlights where drought permit actions may have effects beyond Anglian Water's supply area, including along River Trent starting in the Severn Trent Water's supply area, the River Yare to Great Yarmouth (extending into Essex and Suffolk Water's supply area), along the River Great Ouse around St Ives (Cambridge Water's supply area) and the area east of the Colne Estuary (Affinity Water's supply area).

1.6 DROUGHT CONTINGENCY PLANNING ENVIRONMENTAL ASSESSMENTS

EARs have been prepared for the drought permit sites identified in **Section 1.4.2.2**, to support Anglian Water's DP27.

The aim was to produce EARs that have been agreed with the Environment Agency, Historic England and Natural England, such that, in the event of a drought, they are readily available for updating based on the prevailing drought situation at that time. The environmental studies that feed into the EARs consider all potentially affected habitats and species including, but not limited to, Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and Ramsar features, Site of Special Scientific Interest (SSSI) or species/habitats of principal importance for the conservation of biodiversity in England (identified in the Natural Environment and Rural Communities (NERC) Act 2006 Section 41), local wildlife sites and heritage assets. The EARs also set out the limits of the current data and include Environmental Monitoring Plan (EMP) recommendations for each drought permit site. These environmental studies, undertaken outside of an actual drought event, are intended to be used as the basis for the EAR prepared in support of a specific drought permit application, should the need arise.

Information from the assessments support this report and have been used to inform the SEA and HRA.

1.7 STAGES OF SEA PROCESS

Table 1-3 is an extract from the ODPM SEA Practical Guide (ODPM, 2005) that sets out the main stages, tasks and purpose through the SEA process. This Environmental Report represents Stage C: Task C1 of the SEA process, and presents the findings of Tasks B1 to C1.

Table 1-3: SEA Stages and Tasks

SEA Stages and Tasks	Purpose
Stage A: Setting the context and objectives, establishing the baseline and deciding on the scope	
Task A1. Identifying other relevant plans, programmes and environmental protection objectives	To establish how the plan or programme is affected by outside factors to suggest ideas for how any constraints can be addressed, and to help identify SEA objectives
Task A2. Collecting baseline information	To provide an evidence base for environmental problems, prediction of effects, and monitoring; to help in the development of SEA objectives
Task A3. Identifying environmental problems	To help focus the SEA and streamline the subsequent stages, including baseline information analysis, setting of the SEA objectives, prediction of effects and monitoring.
Task A4. Developing SEA Objectives	To provide a means by which the environmental performance of the plan or programme and alternatives can be assessed.
Task A5. Consulting on the scope of the SEA	To ensure the SEA covers the likely significant environmental effects of the plan or programme.

SEA Stages and Tasks	Purpose
Stage B: Developing and refining alternatives and assessing effects	
Task B1. Testing the plan or programme objectives against SEA objectives	To identify potential synergies or inconsistencies between the objectives of the plan or programme and the SEA objectives and help in developing alternatives.
Task B2. Developing strategic alternatives	To develop and refine strategic alternatives
Task B3. Predicting the effects of the plan or programme, including alternatives	To predict the significant environmental effects of the plan or programme and its alternatives
Task B4. Evaluating the effects of the plan or programme, including alternatives	To evaluate the predicted effects of the plan or programme and its alternatives and assist in the refinement of the plan or programme
Task B5. Mitigating adverse effects	To ensure that adverse effects are identified and potential mitigation actions are considered.
Task B6. Proposing measures to monitor the environmental effects of plan or programme implementation	To detail the means by which the environmental performance of the plan or programme can be assessed.
Stage C: Preparing the Environmental Report	
Task C1. Preparing the environmental report	To present the predicted environmental effects of the plan or programme, including alternatives, in a form suitable for public consultation and use by decision-makers.
Stage D: Consulting on the Draft Plan or programme and the Environmental Report	
Task D1. Consulting the public and consultation bodies on the draft plan or programme and the Environmental Report	To give the public and the consultation bodies an opportunity to express their opinions on the findings of the Environmental Report and to use it as a reference point in commenting on the plan or programme. To gather more information through the opinions and concerns of the public
Task D2. Assessing significant changes	To ensure that the environmental implications of any significant changes to the draft plan or programme at this stage are assessed and taken into account
Task D3. Making decisions and providing information	To provide information on how the Environmental Report and consultees opinions were taken into account in deciding the final form of the plan or programme to be adopted
Stage E: Monitoring the significant effects of the plan or programme on the environment	
Task E1. Developing aims and methods for monitoring	To track the environmental effects of the plan or programme to show whether they are as predicted; to help identify adverse effects
Task E2. Responding to adverse effects	To prepare for appropriate responses where adverse effects are identified.

1.8 STRUCTURE OF THIS REPORT

This Environmental Report is structured as follows:

Section 1	Overall purpose and process of the SEA and background to Anglian Water's water supply system and drought planning process. It also gives details of consultation on the SEA.
Section 2	Policy Context, provides a review of other policies, plans and programmes which influence the DP27.

Section 3	Environmental Baseline Review (set out in full in Appendix B), sets out the key environmental issues Anglian Water has considered in the SEA, drawing on information on the current state of the environment within Anglian Water's water supply area.
Section 4	Methodology, provides details of the methods employed in undertaking the assessment including the cumulative effects assessment methodology.
Section 5	Assessment of Drought Actions, presents the potential impacts of the various DP27 actions against the SEA framework.
Section 6	Cumulative Effects Assessment, discusses the potential in-combination impacts of drought actions.
Section 7	Mitigation and Monitoring

1.9 CONSULTATION

The SEA Regulations require that consultation is carried out early in the development of the SEA to inform the scope and level of information in the Environmental Report. In England, the statutory consultation bodies are:

- Natural England
- The Environment Agency
- Historic England

SEA consultation occurs during the scoping process and at the environmental reporting stage.

1.9.1 Scoping Consultation

Initial discussions with the statutory consultees were held on 20th November 2024 with the Environment Agency and Natural England, and on 21st November 2024 with Historic England. The consultees provided comments on the SEA scope and methodology.

Statutory consultees were invited to comment on the Scoping Report and the proposed scope of the SEA in accordance with Regulation 12 (5) of the SEA Regulations. The Scoping Report was issued on 20th December 2024 to the Environment Agency, Historic England and Natural England, with the consultation period running until 11th January 2025. Comments and responses received during the Scoping stage are presented in **Appendix C**.

1.9.2 Consultation on the Environmental Report

The SEA Regulations require that consultation bodies and interested parties are given the opportunity to comment on the Environmental Report and are allowed sufficient time to do so (Ministry of Housing, Communities and Local Government; Department for Levelling Up, Housing and Communities, 2020). The Environmental Report for DP27 has been prepared based on the feedback received during the Scoping stage.

The DP27, including the SEA Environmental Report were issued to Defra in March 2026 and published on Anglian Water's website following approval. A public consultation will be held in the summer of 2026.

A Statement of Response will be prepared on the basis of the consultation and feedback will be taken into consideration in preparing subsequent updates to DP27 and the SEA.

Following the publication of the Final DP27, Anglian Water will also publish a Post-Adoption Statement setting out how the SEA and consultation process influenced the Final DP27.

2. POLICY CONTEXT

2.1 INTRODUCTION

The SEA Regulations require specific baseline information to be included within the Environmental Report to identify the environmental characteristics of areas likely to be significantly affected by the Drought Plan:

- “An outline of the contents and main objectives of the plan or programme, and of its relationship with other relevant plans and programmes.”
- “The relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan or programme.”
- “The environmental characteristics of areas likely to be significantly affected.”
- “Any existing environmental problems which are relevant to the plan or programme including, in particular, those relating to any areas of a particular environmental importance, [such as a European site (within the meaning of regulation 8 of the Conservation of Habitats and Species Regulations 2017 (as amended))]
- “The environmental protection objectives, established at international, Community or [national] level, which are relevant to the plan or programme and the way those objectives and any environmental considerations have been taken into account during its preparation.”

This Section presents a summary of the key policy messages from the review of relevant policies, plans and programmes and a full review is presented in **Appendix A**.

2.2 REVIEW OF POLICIES, PLANS AND PROGRAMMES

A review of relevant international, national, regional and local level policies, plans, programmes and applicable guidance was undertaken to establish how DP27 might affect or be affected by these and to determine the SEA methodology and objectives. The scoping process identified which environmental topics could experience significant effects from the proposed actions and therefore require assessment. Taking a precautionary approach, all SEA topics were scoped in, and the policy and guidance review was completed for these topics..

A summary of key policy messages are presented in **Table 2-1** and the full list of relevant policies, plans, programmes, including applicable guidance, is provided in **Appendix A**.

Table 2-1: Key Policy Messages derived from the review of Policies, Plans and Programmes

SEA Topic	Key Messages	Policies, Plans and Programmes
Biodiversity, flora and fauna	Conservation and enhancement of the natural environment and of biodiversity, principally designated sites (international and national) and priority habitats and species, whilst considering climate change and ability to adapt.	International: Convention on Biological Diversity (2022) Kunming-Montreal Global Biodiversity Framework (GBF) Council of Europe (1979) The Convention on the Conservation of European Wildlife and Natural Habitats (The Bern Convention) Council of Europe (1979) The Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention) European Commission, Birds Directive (2009/147/EC) Ramsar Convention (1971), The Convention on Wetlands of International Importance United Nations, Convention on Biological Diversity (CBD) (1992)
	Promote a catchment-wide or landscape-scale approach to biodiversity management to ensure better protection of the natural environment and heritage.	National: Centre for Environment Fisheries and Aquaculture Science and Natural Resources Wales (2021) Assessment of Salmon Stocks and Fisheries in England and Wales 2020 Defra (2010), Making Space for Nature: A Review of England's Wildlife Sites and Ecological Network Defra (2011) Biodiversity 2020: A Strategy for England's Wildlife and Ecosystem Services
	To achieve favourable condition for priority habitats and species, including UK NERC habitats and species.	Defra (2011) UK National Ecosystem Assessment and Defra, 2014, UK National Ecosystems Assessment Follow on, Synthesis of Key Findings Defra (2014) Biodiversity duty: public authority duty to have regard to conserving biodiversity Defra and Environment Agency (2019) How to Write and Publish a Drought Plan, Draft consultation
	Avoidance of activities likely to cause irreversible damage to nature conservation and natural heritage.	Defra (2011) The Natural Choice: Securing the Value of Nature Defra (2011) Natural Environment White Paper Defra (2013) What nature can do for you Defra (2015) The government's response to the Natural Capital Committee's third State of Natural Capital report
	Recognise the wider benefits of eco-system services through support for well-functioning ecosystems, respect environmental limits and capacities, and maintain/enhance coherent ecological networks, including provision for fish passage and connectivity for migratory/mobile species.	Defra (2020) Enabling a Natural Capital Approach (ENCA) Defra (2023) The Great Britain Invasive Non-Native Species Strategy: 2023 to 2030 Defra (2023) Environmental Improvement Plan 2023 Defra (2026) A new vision for water (Policy paper)
	Strengthen the connections between people and nature and realise the value of biodiversity.	Department for Ministry of Housing, Communities & Local Government (MHCLG) (2024) National Planning Policy Framework Environment Agency (undated) Hydroecology: Integration for modern regulation Environment Agency (undated) WFD River Basin Characterisation Project
	Recognise importance of natural capital in supporting current and future development and seek to ensure natural capital is properly taken into account in all decision-making.	
	A need to protect and, where possible, enhance the blue green infrastructure network, including green spaces and other environmental features.	

SEA Topic	Key Messages	Policies, Plans and Programmes
	To seek opportunities for biodiversity net gain from infrastructure development.	HM Government (1975) Salmon and Freshwater Fisheries Act 1975 HM Government (1981) Wildlife and Countryside Act 1981 HM Government (1990) Environmental Protection Act HM Government (2017) The Conservation of Habitats and Species Regulations 2017 (as amended) Joint Nature Conservation Committee and Four Nations Governments (2012) UK Post-2010 Biodiversity Framework HM Government (2000) Countryside and Rights of Way (CROW) Act 2000 HM Government (2006) Natural Environment and Rural Communities Act 2006 HM Government (2009) The Aquatic Animal Health (England and Wales) Regulations 2009 HM Government (2009) The Eels (England and Wales) Regulations 2009 HM Government (2009) Water Resources Act 1991 (Amendment) (England and Wales) Regulations 2009 HM Government (2009) Marine and Coastal Access Act 2009 HM Government (2010) The Marine Strategy Regulations 2010 HM Government (2011) UK Marine Policy Statement HM Government (2017) The Conservation of Habitats and Species Regulations 2017 (as amended) HM Government (2017) The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 HM Government (2019) the Invasive Alien species (Enforcement and Permitting) Order 2019 HM Government (2021) Environment Act 2021 Natural England (2016) A narrative for conserving freshwater and wetland habitats in England Natural England (2016) Conservation 21: Natural England's conservation strategy for the 21st century Natural England and the Environment Agency (2014) Protected Species and Development: Advice for Local Planning Authorities UKTAG on the WFD e.g. Phase 3 Review of Environmental Standards Regional/Sub-regional: Anglian Water Biodiversity Strategy 2015 – 2020 (Undated) Anglian Water Bioresources Strategy 2025 – 2050 (2023) Anglian Water Long Term Delivery Strategy (2023) Northamptonshire Biodiversity Action Plan (2015 – 2020) Suffolk Biodiversity Action Plan and Planning (2012) Suffolk Nature Strategy 2015
	Avoidance of activities likely to increase the risk of spread of Invasive Non-Native Species (INNS).	

SEA Topic	Key Messages	Policies, Plans and Programmes
		Northumbrian Water Group (NWG) Purpose, Environment and Climate Commitments (2021 onwards) South Staffs (incorporating Cambridge Water) Long Term Strategy to 2050 Affinity Water Strategic Direction Statement 2025–2050 Severn Trent Environmental Strategy and AMP7/AMP8 nature-based commitments (post-2020) Yorkshire Water Long Term Strategy 2025-2050 Thames Water Long Term Strategy to 2050 Water Resources East (WRE) Regional Water Resources Plan (2023) Water Resources West (WRW) Draft Regional Plan (2022) Water Resources South East (WRSE) Revised Draft Regional Plan (2023) Water Resources North (WReN) Draft Regional Plan (2022) Ipswich Strategic Green Infrastructure Framework (various local plan updates) Northampton Green Infrastructure Plan Greater Norwich Green Infrastructure Strategy Greater Norwich Green Infrastructure Study (2022) Peterborough Green Infrastructure and Biodiversity Supplementary Planning Document Environment Agency (various) Abstraction Licensing Strategies (Catchment Abstraction Management Strategies (CAMS)) process (various) Natural England (2022) European Site Conservation Objectives: Supplementary advice on conserving and restoring site features (River Wensum, Portholme, Ouse Washes, The Wash & North Norfolk Coast, Orton Pit, Nene Washes, Barnack Hills & Holes, Breckland and Norfolk Valley Fens and Buxton heath) Biodiversity Action Plans (various) Local Wildlife Trust Strategies (various) Natural England (2014) Site Improvement Plans (SIPs) for Natura 2000 Sites Natural England National Character Area (NCA) Profiles Natural England and Environment Agency (various) River Restoration and Water Level Management Plans National Park Management Plans (various) The Broads Plan 2022 - 2027, Broads Authority Local Nature Recovery Strategies (various, emerging)

SEA Topic	Key Messages	Policies, Plans and Programmes
Population and human health	Water resources play an important role in recreation. A reliable and wholesome water supply is vital to public health protection. Effective water resource management can create opportunities for regeneration, tourism and the wider economy.	International: European Commission (1999) Landfill of Waste Directive (99/31/EC) United Nations Economic Commission for Europe (1998), Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (The Aarhus Convention)
	The issue of water supply is becoming a development constraint in some areas, which is recognised as an issue in the National Planning Policy Framework.	United Nations (2015) The 2030 Agenda for Sustainable Development World Health Organisation (2004) Children's Environment and Health Action Plan for Europe National: Defra (2026) A new vision for water (policy paper)
	To ensure all communities have a clean, safe and attractive environment in which people can take pride.	Defra (2011) The Natural Choice: securing the value of nature. The Natural Environment White Paper Defra (2013) What nature can do for you Defra (2015) The government's response to the Natural Capital Committee's third State of Natural Capital report
	To ensure reliable and sustainable supplies of water are maintained for all.	Defra, Environment Agency, Natural England, Forestry Commission England (2016) Creating a great place for living Defra (2026) A new vision for water (Policy paper)
	Increase awareness around the value and health benefits of water and encourage its sustainable use.	Department for Ministry of Housing, Communities & Local Government (MHCLG) (2024) National Planning Policy Framework Environment Agency (2025) National Framework for Water Resources 2025 Environment Agency, Office for Water Services and Natural Resources Wales (2023) Water resources planning guideline HM Government (1990) Environmental Protection Act HM Government (2006) The Environmental Noise (England) Regulations 2006 HM Government (2010) The Air Quality Standards Regulations 2010 HM Government (2011) Localism Act 2011 HM Government (2015) The Environmental Damage (Prevention and Remediation) (England) Regulations 2015 HM Government (2016) Environmental Permitting (England and Wales) Regulations 2016 (as amended 2018) HM Government (2018) The Water Supply (Water Quality) Regulations 2018 HM Government (2017) The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 HM Government (2021) Environment Act 2021

SEA Topic	Key Messages	Policies, Plans and Programmes
		National Infrastructure Commission (2018) Preparing for a Drier Future, England's Water Infrastructure Needs Water UK (2022) Water 2050 – A White Paper Regional/Local: Anglian Water Long Term Delivery Strategy (2023) Northampton Green Infrastructure Plan Greater Norwich Growth Board (2025) Greater Norwich Green Infrastructure Strategy Peterborough City Council (2018/2019) Green Infrastructure and Biodiversity Supplementary Planning Document (SPD) Greater Norwich Green Infrastructure Study (2022) Peterborough Green Infrastructure and Biodiversity Supplementary Planning Document England Coast Path: improving public access to the coast Local Transport Plans (various) The Broads Plan 2022 - 2027, Broads Authority Local Planning Authority (various) Local Plans/Local Development Plans Public Rights of Way Improvement Plans (ROWIPs)
Material assets and resource use	Promote sustainable production and consumption whilst seeking to reduce the amount of waste generated by using materials, energy and water more efficiently	International: European Commission (1999) Landfill of Waste Directive (99/31/EC) United Nations (2015) The 2030 Agenda for Sustainable Development National: Canal & River Trust (2015) Water Resources Strategy 2015 – 2020 Canal & River Trust (2015) South East Waterway Fisheries & Angling Action Plan (2015) DESNZ and BEIS (2020) Energy white paper: Powering our net zero future DESNZ and BEIS (2021) Heat and buildings strategy DESNZ and BEIS (2021) Net Zero Strategy: Build Back Greener Defra (2008) Future Water: the Government's water strategy for England Defra (2011) Government Review of Waste Policy in England 2011 Defra (2012) National Policy Statement for Waste Water Defra (2020) Water abstraction plan: Environment Defra (2021) Waste Management Plan for England
	Consider issues of water demand, water supply and water quality in the natural environment and ensure a sustainable use of water resources	
	Maintain a reliable public water supply and ensure there is enough water for human uses, as well as providing an improved water environment	
	Accelerating the transition to sustainable forms of energy and achieving regional renewable energy deployment targets	

SEA Topic	Key Messages	Policies, Plans and Programmes
	Minimise the production of waste, ensure waste management is in line with the 'waste hierarchy', and eliminate waste sent to landfill.	Defra (2023) Environmental Improvement Plan 2023 Defra and the Environment Agency (2018) Resources and Waste Strategy for England for England Department for Levelling Up, Housing and Communities and Ministry of Housing, Communities & Local Government (2014) National Planning Policy for Waste Department for Levelling Up, Housing and Communities and Ministry of Housing, Communities & Local Government (2015) Renewable and Low Carbon Energy Environment Agency (2025) National Framework for Water Resources 2025: water for growth, nature and a resilient future HM Treasury (2015) Fixing the Foundations: creating a more prosperous nation. HM Government (1994) Urban Waste Water Treatment (England and Wales) Regulations 1994 HM Government (2009) The UK Renewable Energy Strategy HM Government (2017, updated 2019) UK Clean Growth Strategy: Leading the way to a low carbon future HM Government (2020) Energy White Paper: Powering our Net Zero Future HM Government (2021) Environment Act 2021 HM Treasury (2020) Natural Infrastructure Strategy JNCC on behalf of the Four Countries' Biodiversity Group (2024 UK Biodiversity Framework) Regional/Local: National Park Management Plans (various) Northumbrian Water, Cambridge Water, Affinity Water, South Staffs Water, Thames Water, Severn Trent Water and Yorkshire Water Drought Plans (DPs) 2022 Northumbrian Water, Cambridge Water, Affinity Water, South Staffs Water, Thames Water, Severn Trent Water and Yorkshire Water Water Resource Management Plans (WRMPs) 2024 Anglian Water - Our net zero strategy to 2030 (2021) Anglian Water Long Term Delivery Strategy (2023)
Water	Reduce the sources of flooding and harm to people, and the natural, built and historic environment caused by floods and promote sustainable flood risk management measures	International: United Nations (2015) The 2030 Agenda for Sustainable Development

SEA Topic	Key Messages	Policies, Plans and Programmes
	Promote sustainable water resource management, including a reduction in water consumption	National: Canal & River Trust (2015) Water Resources Strategy 2015 – 2020 Canal & River Trust (2015) Living Waterways Transform Places & Enrich Lives: Our 10 Year Strategy Canal & River Trust (2015) South East Waterway Fisheries & Angling Action Plan (2015) Centre for Environment Fisheries and Aquaculture Science and Natural Resources Wales (2021) Assessment of Salmon Stocks and Fisheries in England and Wales 2020 Defra (2005) Making space for water
	Maintain and improve water quality (surface waters, groundwater and bathing waters)	Defra (2006) Shoreline Management Plan Guidance Defra (2008) Future Water: the Government's water strategy for England Defra (2011) The Natural Choice: Securing the value of nature. The Natural Environment White Paper
	Expanding the scope of water protection to all waters, surface waters and groundwater	Defra (2012) National Policy Statement for Waste Water Defra and Welsh Government (2014) River Basin Planning Guidance Defra (2015) The government's response to the Natural Capital Committee's third State of Natural Capital report
	Improve the quality of the water environment and the ecological features which it supports, and continue to provide high levels of drinking water quality	Defra (2018) Farming rules for water – getting full value from fertilisers and soil Defra (2021) Drought: how water companies plan for dry weather and drought Defra (2022) UK Climate Change Risk Assessment 2022 Defra (2023) National Policy Defra (undated) Drought Plan Direction Defra (2023) Environmental Improvement Plan 2023
	Ensure appropriate management of abstractions and protect flow and level variability across the full range of regimes from low to high conditions	Drought Management in England, Environmental Agency (2024) Defra (2026) A new vision for water (Policy paper) The National Policy Statement (NPS) for Water Resources Infrastructure Environment Agency (2025) National Framework for Water Resources 2025 Environment Agency (2013), Managing Water Abstraction
	Encourage more efficient use of water and promote awareness of water sustainability.	Environment Agency (2020) National Flood and Coastal Erosion Risk Management Strategy for England Environment Agency CAMS (various) Environment Agency Catchment Flood Management Plans Environment Agency and other lead authorities Shoreline Management Plans

SEA Topic	Key Messages	Policies, Plans and Programmes
		Environment Agency, Office for Water Services and Natural Resources Wales (2023) Water resources planning guideline HM Government (1975) Reservoirs Act HM Government (1975) Salmon and Freshwater Fisheries Act 1975 HM Government (1991) Water Industry Act 1991 was amended by the commencement of Section 36 of the Flood and Water Management Act 2010 HM Government (1994) Urban Waste Water Treatment (England and Wales) Regulations 1994 HM Government (2007) Water Resources Management Plan Regulations 2007 HM Government (2009) The Flood Risk Regulations 2009 HM Government (2009) The Groundwater (England and Wales) Regulations 2009 HM Government (2009) The Water Resources Act 1991 (Amendment) (England and Wales) Regulations 2009 HM Government (2010) Flood and Water Management Act 2010 HM Government (2011) UK Marine Policy Statement HM Government (2019) Marine Strategy HM Government (2013) The Bathing Water Regulations 2013 HM Government (2014) Water Act 2014 HM Government (2015) The Nitrate Pollution Prevention Regulations 2015 HM Government (2015) The Environmental Damage (Prevention and Remediation) (England) Regulations 2015 HM Government (2016) Environmental Permitting (England and Wales) Regulations 2016 (as amended 2018) HM Government (2018) The Water Supply (Water Quality) Regulations 2018 HM Government (2017) The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 HM Government (2020) The Agriculture Act 2020 HM Government (2021) Environment Act 2021 National Infrastructure Commission (2018) Preparing for a drier future: England's water infrastructure needs Natural England (2016) A narrative for conserving freshwater and wetland habitats in England Natural Resources Wales (2024) Water company drought plan – technical guidance Ofwat (2016) Water 2020 Ofwat (2017) Resilience in the Round

SEA Topic	Key Messages	Policies, Plans and Programmes
		UKTAG: Phase 3 Review of Environmental Standards Waterwise (2017) Water Efficiency Strategy for the UK Water UK (2022) Water 2050 – A White Paper Regional/Local: Anglian Water Services Ltd, Final Water Resources Management Plan 2024 Anglian Water Strategic Direction Statement 2020–2045 (2017) Anglian Water Drainage and Wastewater Management Plan (DWMP) (2023) Anglian Water Long Term Delivery Strategy (2023) Northumbrian Water, Cambridge Water, Affinity Water, South Staffs Water, Thames Water, Severn Trent Water and Yorkshire Water WRMPs (2024) and Drought Plans (2022) Environment Agency (2022) River Basin Management Plans (RBMPs) (various) Environment Agency (various) Abstraction Licensing Strategies (Catchment Abstraction Management Strategies (CAMS)) process (various) Essex Green Infrastructure Strategy Infrastructure Strategy (2020) Northampton Green Infrastructure Plan Greater Norwich Green Infrastructure Strategy (2025) Peterborough Green Infrastructure & Biodiversity SPD (2018/2019) Greater Norwich Green Infrastructure Study (2022) Peterborough Green Infrastructure and Biodiversity Supplementary Planning Document The Broads Plan 2022 - 2027, Broads Authority National Park Authorities Management Plans (various) Water Level Management Plans and River Restoration Plans (various)
Soil, geology and land use	Maintain the quality and diversity of geology and soils, which can be lost or damaged by insensitive development Ensure that soils will be protected and managed to optimise the varied functions that soils perform for society (e.g. supporting agriculture and forestry, protecting cultural	International: European Commission (1999) Landfill of Waste Directive (99/31/EC) United Nations (2015) The 2030 Agenda for Sustainable Development National: Defra (2025) The Government's Approach to Rural Proofing (2025) Defra (2009) Safeguarding our Soils – A Strategy for England Defra (2018) Farming rules for water – getting full value from fertilisers and soil Defra (2020) National food strategy for England Defra (2020) The Path to Sustainable Farming: An Agricultural Transition Plan 2021 to 2024

SEA Topic	Key Messages	Policies, Plans and Programmes
Air and climate	heritage, supporting biodiversity, as a base for construction), in keeping with the principles of sustainable development.	Defra (2023) Environmental Improvement Plan 2023 Defra (2026) A new vision for water (Policy paper) Environment Agency (2007) Soil: a precious resource
	Promote catchment-wide approach to land use management in order to benefit natural resources, reduce pollution and develop resilience to climate change.	Department for Levelling Up, Housing and Communities and Ministry of Housing, Communities & Local (2024) National Planning Policy Framework HM Government (1981) Wildlife and Countryside Act 1981 HM Government (2006) Natural Environment and Rural Communities Act 2006 HM Government (2015) The Nitrate Pollution Prevention Regulations 2015
	Promote mixed use developments and encourage multiple benefits from the use of land in urban and rural areas, recognising that some open land can perform many functions.	HM Government (2020) The Agriculture Act 2020 HM Government (2021) Environment Act 2021 National Assembly for Wales (2016) Environment (Wales) Act 2016 Natural England (2011) UK Geodiversity Action Plan
	To reduce the health risk and environmental degradation from main air pollutants without imposing unacceptable economic or social costs	Regional/local: Natural England - National Character Area (NCA) profiles Local Geodiversity Action Plans (LGAPs) Local Planning Authority (various) Local Plans/Local Development Plans National Park Authorities Management Plans (various)
	The UK has set a target to reach net zero greenhouse gas emissions by 2050, including through the contributions being made by water companies to reduce GHG emissions associated with water supply.	International: The Paris Agreement (2016), The Cancun Agreement (2011) European Commission (2008) Ambient Air Quality Directive (2008/50/EC) European Commission (2009) Promotion of the use of energy from renewable sources Directive (2009/28/EC) European Commission (2005) Thematic Strategy on Air Pollution European Commission (2016) National Emissions reduction Commitments (NEC) Directive 2016/2284/EU
	Reduce the effects of air pollution on ecosystems.	European Commission (2008) Ambient Air Quality and Cleaner Air for Europe Directive 2008/50/EC Air Quality
	Improve overall air quality	
	Sustain compliance with and contribute national objectives for pollutants, considering the presence of Air Quality Management Areas and the cumulative impacts on air quality from individual sites in local areas.	National: DESNZ (2023) National Policy Statements for energy infrastructure DESNZ and BEIS (2020) Energy white paper: Powering our net zero future DESNZ and BEIS (2021) Heat and buildings strategy

SEA Topic	Key Messages	Policies, Plans and Programmes
	Minimise energy consumption, support the use of sustainable/renewable energy and improve resilience to climate change. Build in adaption to climate change to future planning and consider the level of urgency of associated risks of climate change impacts accordingly.	DESNZ and BEIS (2021) Net Zero Strategy: Build Back Greener Department for Transport (2022) UK Electric Vehicle Infrastructure Strategy Defra (2007) The Air Quality Strategy for England, Scotland and Wales Defra (2008), England Biodiversity Strategy –climate change adaptation principles Defra (2008) Future Water: the Government’s water strategy for England Defra (2007) Conserving Biodiversity in a Changing Climate: Guidance on Building Capacity to Adapt Defra (2017) Air Quality Plan for Nitrogen Dioxide (NO2) in UK Defra (2023) Environmental Improvement Plan 2023 Defra (2024) Understanding climate adaptation and the third National Adaptation Programme (NAP3) Defra (2026) A new vision for water (Policy paper) Defra, Department of the Environment (NI), Scottish Government and Welsh Assembly Government (2010) Air Pollution: Action in a Changing Climate English Heritage, now known as Historic England (2008) Climate Change and the Historic Environment Historic England (2022) Climate change adaptation report HM Government (2006) Climate Change and Sustainable Energy Act 2006 HM Government (2010) The Air Quality Standards Regulations 2010 HM Government (2015) Ozone-Depleting Substances Regulations 2015 HM Government (2020) Energy White Paper: Powering our Net Zero Future HM Government (2021) Environment Act 2021 HM Government (2022) UK Climate Change Risk Assessment 2022 HM Government (2023) The Energy Act 2023 Natural England National Character Area (NCA) Profiles The Climate Change Act 2008 UKCIP (2018) UK Climate Projections UKCP18 Regional/Local: Anglian Water Services Ltd, Final Water Resources Management Plan 2024 Anglian Water - Our net zero strategy to 2030 (2021) Local Planning Authority (various) Local Plans/Local Development Plans Heritage and Conservation Strategies (various)

SEA Topic	Key Messages	Policies, Plans and Programmes
		Essex Green Infrastructure Strategy Infrastructure Strategy (2020) Northampton Green Infrastructure Plan Greater Norwich Green Infrastructure Strategy (2025) Greater Norwich Green Infrastructure Study (2022) Peterborough Green Infrastructure and Biodiversity Supplementary Planning Document
Archaeology and cultural heritage	Protection and enhancement of heritage assets and their settings, particularly those of international and national importance	International: Council of Europe (1985) Convention for the Protection of the Architectural Heritage of Europe (Granada Convention) Council of Europe (1992) Valletta Convention on Protection of Archaeology ICOMOS (2011) Guidance on Heritage Impact Assessments for Cultural World Heritage Properties IUCN (2013) World Heritage Advice Note: Environmental Assessment
	Built development in the vicinity of historic buildings could have implications for the setting and/or built fabric	UNESCO (1972) World Heritage Convention UNESCO (2001) Convention on the Protection of Underwater Cultural Heritage National: Department for Culture, Media and Sport (DCMS) (2001) The Historic Environment – A Force for the Future DCMS and Welsh Government (2007) Heritage Protection for the 21st Century
	Ensure any adverse effects to heritage should be minimised or avoided altogether, particularly to World Heritage Sites	DCMS (2013) Scheduled Monuments & Nationally Important but Non-Scheduled Monuments DCMS (2016) The Culture White Paper Defra (2011) The Natural Choice: securing the value of nature, The Natural Environment White Paper
	Ensure active management of the Region's environmental and cultural assets	Department for Culture, Media and Sport (2001) The Historic Environment – A Force for the Future Department for Levelling Up, Housing and Communities and Ministry of Housing, Communities & Local (2024) National Planning Policy Framework Historic England (various) Heritage at Risk Historic England (2015) The Setting of Heritage Assets, Historic Environment Good Practice Advice in Planning 3 Historic England (2016) Historic England Advice Note 8: Sustainability Appraisal and SEA Historic England (2022) Climate change adaptation report

SEA Topic	Key Messages	Policies, Plans and Programmes
	Promote heritage and landscape as central to the culture of the region and conserve and enhance distinctive characteristics of landscape and settlements.	Historic England (2022) Heritage and Climate Change Historic England (2024) Heritage Counts: Historic Environment Overview 2023-24 HM Government (1953) Historic Buildings and Ancient Monuments Act 1953 HM Government (1973) Protection of Wrecks Act 1973 HM Government (1979) Ancient Monuments and Archaeological Areas Act 1979 HM Government (1990) Planning (Listed Buildings and Conservation Areas) Act 1990 HM Government (2002) The National Heritage Act 2002 HM Government (2021) Environment Act 2021 HM Government (2009) Marine and Coastal Areas Act Ministry of Housing, Communities and Local Government, Ministry of Housing, Communities & Local Government (2018 to 2021) and Department for Levelling Up, Housing and Communities (2024) National Planning Practice Guidance Historic England (2022) A Strategy for Wellbeing and Heritage (2022 – 2025) Historic England (2024) Peatlands and the Historic Environment Historic England (2019) Conservation Area Appraisal, Designation and Management Historic England Advice Note 1 (Second Edition) English Heritage (2023) Sustainable Conservation Principles Historic England (2016) Historic England Advice Note 8: Sustainability Appraisal and SEA Heritage Fund (2023) Heritage 2033 – our 10-year strategy Regional/Local: National Landscape (formerly AONB) Management Plans (various) Historic England (2023 and 2024) Heritage at Risk Registers National Park Authorities Management Plans (various) Visit East of England Destination Development Plan (2021) Local Cultural Strategies (various) – Suffolk, Peterborough, Northamptonshire, Norfolk, Essex and Cambridge City Conservation Area Character Appraisals and Management Plans (various) World Heritage Site Management Plans (various)
Landscape and visual amenity	Protection and enhancement of urban and rural landscapes (including designated landscapes, landscape character and the countryside).	International: Council of Europe (2000) European Landscape Convention (Florence Convention) National:

SEA Topic	Key Messages	Policies, Plans and Programmes
	Take account of the different roles and character of different areas, promoting the vitality of main urban areas, protecting the Green Belts around them, recognising the intrinsic character and beauty of the countryside and supporting thriving rural communities within it.	Defra (2011) The Natural Choice: Securing the value of nature. The Natural Environment White Paper Department for Levelling Up, Housing and Communities and Ministry of Housing, Communities & Local (2024) National Planning Policy Framework Defra (2010) Making Space for Nature: A Review of England's Wildlife Sites and Ecological Network Defra (2025) The Government's Approach to Rural Proofing
	Promote landscape as central to the culture of the region and conserve and enhance distinctive characteristics of landscape and settlements.	HM Government (1981) Wildlife and Countryside Act 1981 HM Government (2000) Countryside and Rights of Way (CROW) Act 2000 Historic England (2015) Historic Environment Good Practice Advice in Planning Note 3 HM Government (2021) Environment Act 2021
	Enhance the value of the countryside by protecting the natural environment for this and future generations.	Wildlife and Countryside Act 1981 (as amended) Regional/Local: Historic England (2023 and 2024) Heritage at Risk Registers
	Ensure good access to valued areas of landscape character in sustainable ways to enhance its enjoyment and value by visitors and stakeholders. This includes protecting National Trails and Public Rights of Way.	Essex Green Infrastructure Strategy Infrastructure Strategy (2020) Northampton Green Infrastructure Plan Greater Norwich Green Infrastructure Strategy (2025) Peterborough Green Grid Strategy (2007) Greater Norwich Green Infrastructure Study (2022) Peterborough Green Infrastructure and Biodiversity Supplementary Planning Document England Coast Path: improving public access to the coast National Character Area (NCA) profiles National Landscape (formerly AONB) Management Plans (various) World Heritage Site Management Plans (various) National Park Authorities Management Plans (various) National Landscape (formerly AONB) Management Plans (various)

3. ENVIRONMENTAL BASELINE

3.1 INTRODUCTION

In line with Schedule 2 of the SEA Regulations, the SEA includes a review of baseline conditions to support the identification of likely significant effects of drought actions. In addition, the future baseline must be described to show the evolution of baseline conditions without implementation of the plan. This shows whether DP27 improves conditions, worsens them, or alters existing trends.

This Section presents a summary of the environmental baseline information. Further detail is provided in **Appendix B**. Baseline data was drawn from a variety of sources, including:

- Anglian Water Drought Plan 2022 – SEA Environmental Report (Anglian Water, 2022)
- Office for National Statistics
- Multi-Agency Geographic Information for the Countryside (MAGIC) Interactive Mapping
- Environment Agency Catchment Explorer
- Natural England
- Historic England
- Plans and programmes listed in Appendix A.

The baseline information was used to determine the SEA objectives.

3.2 SUMMARY OF KEY ISSUES

Table 3-1 presents a summary of the key sustainability issues for each of the topic areas arising from the review of baseline information. Further detail on the baseline conditions for each topic as well as the future baseline is provided in **Appendix B**.

Table 3-1: Summary of key sustainability issues

Topic	Key Issues
Biodiversity, Fauna and Flora	• Protecting, conserving or enhancing biodiversity, particularly protected sites designated for nature conservation. • Opportunities to improve connectivity between fragmented habitats to create functioning habitat corridors. • Slow/halt or reverse biodiversity losses and declines and avoid activities likely to cause irreversible damage to natural heritage. • Protect fish populations and fisheries (freshwater and marine), linked with habitat quality and water quality. • Recognise the importance of allowing wildlife to adapt to climate change. • Integrate biodiversity considerations to new developments. • Control the spread of INNS. • The need to engage more people in biodiversity issues so that they personally value biodiversity and know what they can do to help, including through recognising the value of ecosystem services.
Population and Human Health	• The need to ensure public awareness of drought conditions and importance of maintaining resilient, reliably public water supplies without the need for emergency drought actions. • The need to accommodate an increasing population. • Ensure water quantity and quality in rivers is maintained for a range of uses including tourism, recreation, navigation and use for agricultural purposes. • Ensure supplies of water are reliable and affordable.

Topic	Key Issues
	• Deliver sustainable development, recognising social, environmental and economic needs. • Sites of nature conservation importance, heritage assets, water resources, important landscapes and public rights of way contribute to recreation and tourism opportunities and subsequently health and wellbeing and the economy.
Material Assets and Resource Use	• The need to minimise the consumption of resources, including water and energy. • The need to reduce the total amount of waste produced in the region, from all sources, and to reduce the proportion of this waste sent to landfill. • The need to continue to reduce leakage from the water supply system to help reduce demand for water. • Daily consumption of water is below the national average in the area, however, there is a continued need to encourage more efficient water use.
Water	• Ensure the protection, improvement and sustainable use of all water bodies to meet society's needs for a resilient water supply, particularly in light of potential climate change impacts. • Ensure the appropriate management of water during times of drought. • Ensure the integration of water issues and biodiversity, recognising the links between the two. • The need to further improve water quality of the region's river, estuarine and coastal waters, taking into account WFD objectives. • The need to maintain the quantity and quality of groundwater sources, taking into account WFD objectives. • Ensure that people understand the value of water.
Soil, Geology and Landscape	• The need to protect and enhance geological features of importance (including geological SSSIs) and maintain and enhance soil function and health. • The need to manage the land more holistically at the catchment level, benefitting landowners, other stakeholders, the environment and sustainability of natural resources (including water resources). • The need to protect and restore peatlands and habitats to reduce impacts of climate change. • The need to make use of previously developed land (brownfield land) and to reduce the prevalence of derelict land in the region, recognising the biodiversity value of some sites and need for a site-specific approach.
Air and Climate Key Issues	• Comply with targets for reductions in greenhouse gas emissions and mitigate against climate change. • Ensure resilience against the impacts of climate change through, for example, sustainable water resource management and water efficiency. • Recognising the relationship between peat soils and carbon.
Archaeology and Cultural Heritage Key Issues	• Encourage public awareness through promoting important heritage assets. • The need to conserve and enhance heritage assets and the contribution made to their significance by their settings, particularly those which are sensitive to the water environment. • Consideration of siting of actions to avoid and reduce effects on heritage assets and their settings • The need to protect buried or waterlogged archaeological and paleoenvironment remains.

Topic	Key Issues
	• The need to prevent further harm to heritage assets at risk due to development pressures; • Consideration of areas where there is likely to be further significant loss or erosion of landscape/seascape/townscape character or quality, or where development has had or is likely to have significant impact (direct and or indirect) upon the historic environment and/or people's enjoyment of it • Consideration of the vulnerability of heritage assets to drought conditions
Landscape and Visual Amenity Key Issues	• The need to protect and improve the natural beauty of the region's National Landscapes, National Parks and other areas of natural beauty. • The need to protect and improve the character of landscapes and townscapes.

4. METHODOLOGY

4.1 INTRODUCTION

This section sets out the methodology in undertaking the SEA of DP27, in accordance with the SEA regulations and relevant government and UK Water Industry Research (UKWIR) guidance. The assessment methodology meets the requirements of Schedule 2 of the SEA Regulations, including the identification of likely significant effects, consideration of reasonable alternatives, assessment of cumulative effects and identification of mitigation and monitoring measures.

What the SEA Regulations require:

According to Regulation 12:

- (2) *The report shall identify, describe and evaluate the likely significant effects on the environment of –*
- (a) implementing the plan or programme; and,*
 - (b) reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme*

According to Schedule 2, The Environmental Report should include:

- 6. *The likely significant effects on the environment, including short, medium and long-term effects, permanent and temporary effects, positive and negative effects and secondary, cumulative and synergistic effects.*
- 8. *An outline of the reasons for selecting the alternatives dealt with, and a description of how the assessment was undertaken including any difficulties (such as technical deficiencies or lack of know-how) encountered in compiling the required information.*

4.2 ASSESSMENT METHODOLOGY AND SEA FRAMEWORK

The SEA included a review of previous assessments undertaken for DP22, including the DP22 SEA, and EARs and HRAs (where relevant) for the drought actions. The SEA is 'objectives-led' meaning that a set of assessment objectives is used as the basis for assessing the environmental effects of the drought actions. These objectives are derived from law, policy or other plans and programmes, or from baseline information and environmental problems (**Section 3.2**).

The SEA objectives (**Table 4-1**) have been developed based on:

- Review of policies, plans and programmes (**Section 2**).
- Baseline environmental conditions (Section 3 and Appendix B).
- Key environmental issues identified (Section 3.2).

As well as the overall SEA objectives, a number of key questions have been developed for each SEA topic. These questions prompt a consistent assessment against the SEA objectives. The assessment of each drought action is based on the following information, where available:

- Descriptions of each drought action;
- Likelihood and predicted frequency of deployment of the action;
- The extent of construction works (where applicable) and operational/implementation details;
- EARs (for drought permit actions);
- Benefits to water supply and drought resilience; and
- The baseline environment, such as location of designated sites, priority habitats and species, landscape areas or heritage assets, recreational facilities and other environmental features.

Table 4-1: SEA Objectives and Assessment Approach

SEA Topic	Policies, Plans and Programmes Key Messages	Baseline Key Issues	SEA Objectives	Indicator / Guide Questions
Biodiversity, flora and fauna	Conservation and enhancement of the natural environment and of biodiversity, principally designated sites (international and national) and priority habitats and species, whilst considering climate change and ability to adapt. Promote a catchment-wide or landscape-scale approach to biodiversity management to ensure better protection of the natural environment and heritage. To achieve favourable condition for priority habitats and species, including UK NERC habitats and species. Avoidance of activities likely to cause irreversible damage to nature conservation and natural heritage. Recognise the wider benefits of eco-system services through support for well-functioning ecosystems, respect environmental limits and capacities, and maintain/enhance coherent ecological networks, including provision for fish passage and connectivity for migratory/mobile species. Strengthen the connections between people and nature and realise the value of biodiversity. Recognise importance of natural capital in supporting current and future development and seek to ensure natural capital is properly taken into account in all decision-making.	Protecting, conserving or enhancing biodiversity, particularly protected sites designated for nature conservation. Opportunities to improve connectivity between fragmented habitats to create functioning habitat corridors. Slow/halt or reverse biodiversity losses and declines and avoid activities likely to cause irreversible damage to natural heritage. Protect fish populations and fisheries (freshwater and marine), linked with habitat quality and water quality. Recognise the importance of allowing wildlife to adapt to climate change. Integrate biodiversity considerations to new developments. Control the spread of INNS. The need to engage more people in biodiversity issues so that they personally value biodiversity and know what they can do to help, including through recognising the value of ecosystem services.	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species), enhance ecosystem resilience and habitat connectivity. 1.2 To protect and enhance sustainable natural resources and the ecosystem services they provide and deliver a biodiversity net gain. 1.3 To avoid introducing or spreading INNS. 1.4 To meet WFD objectives relating to biodiversity.	Will it avoid damage to aquatic, transitional, and terrestrial species and habitats (including fish populations, particularly migratory fish) and/or the processes that support them? Will it enhance aquatic, transitional and terrestrial species and habitats? Will it protect the most important sites for nature conservation? Will it minimise habitat fragmentation and protect connectivity? Will it provide opportunities for new habitat creation or restoration and link existing habitats? Will it ensure the sustainable management of natural habitats, taking into account climate change adaptability? Will it affect WFD compliance e.g. good ecological potential/status? Will it protect natural capital and ecosystems from natural capital? Will it improve access to nature for people? Will it limit, reduce or increase the risk of spread of INNS?

SEA Topic	Policies, Plans and Programmes Key Messages	Baseline Key Issues	SEA Objectives	Indicator / Guide Questions
	A need to protect and, where possible, enhance the blue green infrastructure network, including green spaces and other environmental features. To seek opportunities for biodiversity net gain from infrastructure development. Avoidance of activities likely to increase the risk of spread of INNS.			
Population and human health	Water resources play an important role in recreation. A reliable and wholesome water supply is vital to public health protection. Effective water resource management can create opportunities for regeneration, tourism and the wider economy. The issue of water supply is becoming a development constraint in some areas, which is recognised as an issue in the National Planning Policy Framework. To ensure all communities have a clean, safe and attractive environment in which people can take pride. To ensure reliable and sustainable supplies of water are maintained for all. Increase awareness around the value and health benefits of water and encourage its sustainable use.	The need to ensure public awareness of drought conditions and importance of maintaining resilient, reliably public water supplies without the need for emergency drought actions. The need to accommodate an increasing population. Ensure water quantity and quality in rivers is maintained for a range of uses including tourism, recreation, navigation and use for agricultural purposes. Ensure supplies of water are reliable and affordable. Deliver sustainable development, recognising social, environmental and economic needs. Sites of nature conservation importance, heritage assets, water resources, important landscapes and public rights of way contribute to recreation and tourism opportunities and subsequently health and wellbeing and the economy.	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing). 2.2 To protect and enhance opportunities for formal and informal recreation. 2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Will it help to ensure access to a resilient and secure supply of drinking water? Will it help to protect or improve drinking water quality? Will it raise awareness of the importance and value of the water environment for health and well-being? Will it help to promote healthy communities and protect from risks to health and wellbeing? Will it protect or enhance opportunities for recreation?

SEA Topic	Policies, Plans and Programmes Key Messages	Baseline Key Issues	SEA Objectives	Indicator / Guide Questions
Material assets and resource use	Promote sustainable production and consumption whilst seeking to reduce the amount of waste generated by using materials, energy and water more efficiently. Consider issues of water demand, water supply and water quality in the natural environment and ensure a sustainable use of water resources. Maintain a reliable public water supply and ensure there is enough water for human uses, as well as providing an improved water environment. Accelerating the transition to sustainable forms of energy and achieving regional renewable energy deployment targets. Minimise the production of waste, ensure waste management is in line with the 'waste hierarchy', and eliminate waste sent to landfill.	The need to minimise the consumption of resources, including water and energy, The need to reduce the total amount of waste produced in the region, from all sources, and to reduce the proportion of this waste sent to landfill. The need to continue to reduce leakage from the water supply system to help reduce demand for water. Daily consumption of water is below the national average in the area, however, there is a continued need to encourage more efficient water use.	3.1 To minimise waste, promote resource efficiency and move towards a circular economy. 3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	Will it help to minimise the demand for water? Will it increase efficiency in water use? Will it minimise greenhouse gas emissions through energy efficiency? Will it minimise waste? Will it enable efficient water resource management and ensure maintenance of supply?
Water	Reduce the sources of flooding and harm to people, and the natural, built and historic environment caused by floods and promote sustainable flood risk management measures. Promote sustainable water resource management, including a reduction in water consumption. Maintain and improve water quality (surface waters, groundwater and bathing waters). Expanding the scope of water protection to all waters, surface waters and groundwater.	Ensure the protection, improvement and sustainable use of all water bodies to meet society's needs for a resilient water supply, particularly in light of potential climate change impacts. Ensure the appropriate management of water during times of drought. Ensure the integration of water issues and biodiversity, recognising the links between the two. The need to further improve water quality of the region's river, estuarine and coastal	4.1 To maintain or improve the quality of surface and groundwater resources. 4.2 To protect and enhance surface and groundwater levels and flows. 4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources, including contributing to the achievement of WFD compliance objectives.	Will it minimise risks of adverse effects on water quality or chemistry? Will it prevent the deterioration of WFD waterbody status (or potential)? Will it support the achievement of WFD protected area objectives? Will it ensure a new activity or new physical modification does not prevent the future achievement of good status for a water body? Will it affect bathing water compliance? Will it avoid contamination of groundwater?

SEA Topic	Policies, Plans and Programmes Key Messages	Baseline Key Issues	SEA Objectives	Indicator / Guide Questions
	Improve the quality of the water environment and the ecological features which it supports, and continue to provide high levels of drinking water quality. Ensure appropriate management of abstractions and protect flow and level variability across the full range of regimes from low to high conditions. Encourage more efficient use of water and promote awareness of water sustainability.	waters, taking into account WFD objectives. The need to maintain the quantity and quality of groundwater sources, taking into account WFD objectives. Ensure that people understand the value of water.	4.4 To promote water efficiency and actions that enable sustainable water use.	Will it help to minimise risks associated with unsustainable abstraction of ground and surface waters? Will it ensure sustainable abstractions, taking account of water resources availability status? Will it support the achievement of relevant environmental objectives set out in River Basin Management Plans? Will it alter the flow or level regime or residence time of surface waters or groundwaters? Will it enable flexible control over the level of abstraction at short notice in response to changing environmental conditions? Will it enable a sustainable use of water resources that balances demand for water with environmental protection? Will it encourage efficient water use? Will it contribute towards improving the awareness of water sustainability and its true value? Will it achieve an appropriate balance of supply with other functions and services (including agriculture, navigation and other sector use)?
Soil, geology and land use	Maintain the quality and diversity of geology and soils, which can be lost or damaged by insensitive development Ensure that soils will be protected and managed to optimise the varied	The need to protect and enhance geological features of importance (including geological SSSIs) and maintain and	5.1 To protect and enhance the quality and quantity of soils and protect and enhance geodiversity and ensure	Will it avoid damage to and protect geologically important sites (e.g. geological SSSIs) or similar nationally protected sites?

SEA Topic	Policies, Plans and Programmes Key Messages	Baseline Key Issues	SEA Objectives	Indicator / Guide Questions
	functions that soils perform for society (e.g. supporting agriculture and forestry, protecting cultural heritage, supporting biodiversity, as a platform for construction), in keeping with the principles of sustainable development. Promote catchment-wide approach to land use management in order to benefit natural resources, reduce pollution and develop resilience to climate change. Promote mixed use developments and encourage multiple benefits from the use of land in urban and rural areas, recognising that some open land can perform many functions.	enhance soil function and health. The need to manage the land more holistically at the catchment level, benefitting landowners, other stakeholders, the environment and sustainability of natural resources (including water resources). The need to protect and restore peatlands and habitats to reduce impacts of climate change. The need to make use of previously developed land (brownfield land) and to reduce the prevalence of derelict land in the region, recognising the biodiversity value of some sites and need for a site-specific approach.	appropriate and efficient use of land.	Will it protect and enhance geomorphology and geomorphological processes, including avoiding contribution to coastal erosion? Will it avoid damaging the quality of agricultural land? Will it protect, maintain and enhance soil function and health, including peaty soils? Will it ensure efficient use of land (e.g. make use of previously developed land)?
Air and climate	To reduce the health risk and environmental degradation from main air pollutants without imposing unacceptable economic or social costs Cut the UK's carbon dioxide emissions by at least 100% by the year 2050, including through the contributions being made by water companies to reduce GHG emissions associated with water supply. Reduce the effects of air pollution on ecosystems. Improve overall air quality Sustain compliance with and contribute national objectives for pollutants, taking into account the presence of Air Quality Management Areas and the cumulative	Comply with targets for reductions in greenhouse gas emissions and mitigate against climate change. Ensure resilience against the impacts of climate change through, for example, sustainable water resource management and water efficiency. Recognising the relationship between peat soils and carbon.	6.1 To maintain and improve air quality. 6.2 To reduce greenhouse gas emissions. 6.3 To consider the need for adaptive actions for climate change.	Will it reduce or minimise air pollutant emissions? Will it maintain or enhance ambient air quality, keeping pollution below Local Air Quality Management thresholds (e.g., in Air Quality Management Areas or sensitive habitats)? Will it minimise the need for energy? Will it increase efficiency in the use of energy or make use of renewable energy? Will it reduce or minimise greenhouse gas emissions? Will it reduce vulnerability or increase resilience to risks

SEA Topic	Policies, Plans and Programmes Key Messages	Baseline Key Issues	SEA Objectives	Indicator / Guide Questions
	impacts on air quality from individual sites in local areas. Minimise energy consumption, support the use of sustainable/renewable energy and improve resilience to climate change. Build in adaption to climate change to future planning and consider the level of urgency of associated risks of climate change impacts accordingly.			associated with climate change effects (e.g. drought)? Will it take into account the need for adaptability to climate change?
Archaeology and cultural heritage	Protection and enhancement of heritage assets and their settings, particularly those of international and national importance Built development in the vicinity of historic buildings could have implications for the setting and/or built fabric Ensure any adverse effects to heritage should be minimised or avoided altogether, particularly to World Heritage Sites Ensure active management of the Region's environmental and cultural assets Promote heritage and landscape as central to the culture of the region and conserve and enhance distinctive characteristics of landscape and settlements.	Encourage public awareness through promoting important heritage assets. The need to conserve and enhance heritage assets and the contribution made to their significance by their settings, particularly those which are sensitive to the water environment. Consideration of siting of actions to avoid and reduce effects on heritage assets and their settings The need to protect buried or waterlogged archaeological and paleoenvironment remains. The need to prevent further harm to heritage assets at risk due to development pressures; Consideration of areas where there is likely to be further significant loss or erosion of landscape/seascape/townscape character or quality, or where development has had or is likely to have significant impact (direct and or indirect) upon the	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Will it avoid damage to and protect the historic environment, designated and non-designated heritage assets and their settings, battlefields, unknown assets, places and spaces that enhance local distinctiveness, landscape/townscape character and appearance? Will it avoid damage to and protect archaeologically important sites? Will it avoid damage to important wetland areas with potential for paleo-environmental deposits?

SEA Topic	Policies, Plans and Programmes Key Messages	Baseline Key Issues	SEA Objectives	Indicator / Guide Questions
		historic environment and/or people's enjoyment of it Consideration of the vulnerability of heritage assets to drought conditions		
Landscape and visual amenity	Protection and enhancement of urban and rural landscapes (including designated landscapes, landscape character and the countryside). Take account of the different roles and character of different areas, promoting the vitality of main urban areas, protecting the Green Belts around them, recognising the intrinsic character and beauty of the countryside and supporting thriving rural communities within it. Promote landscape as central to the culture of the region and conserve and enhance distinctive characteristics of landscape and settlements. Enhance the value of the countryside by protecting the natural environment for this and future generations. Ensure good access to valued areas of landscape character in sustainable ways to enhance its enjoyment and value by visitors and stakeholders. This includes protecting National trails and Public Rights of Way.	The need to protect and improve the natural beauty of the region's National Landscapes (AONBs), National Parks and other areas of natural beauty. The need to protect and improve the character of landscapes and townscapes.	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, landscape character and visual amenity.	Will it avoid adverse effects to, and enhance where possible, protected/designated landscapes and the settings of designated landscapes (including woodlands) such as National Parks or National Landscapes? Will it result in changes to access to the countryside and open space? Will it avoid indirect effects on the landscape resulting from effects of abstraction and low river flows? Will it help to protect and improve non-designated areas of natural beauty and distinctiveness (e.g., woodlands) and avoid the loss of landscape features and local distinctiveness? Will it protect and enhance landscape character, townscape, seascape and green infrastructure? Will it minimise adverse visual impacts?

4.3 PRIMARY ASSESSMENT

The assessment framework set out in **Table 4-2** was applied to evaluate each drought action against the SEA objectives. This framework provided a consistent basis for testing the performance of the actions and identifying their potential environmental effects. The findings of this assessment have informed the development of Anglian Water's DP27 and will guide the selection and sequencing of actions should the plan need to be implemented during a drought.

In the context of drought planning, individual drought actions are taken to constitute alternatives. Anglian Water's DP27 comprises a total of **48** drought actions (including eight demand-side actions, an emergency drought order, seven standard supply actions, seven supply-side (drought permit) actions, six extreme demand actions and 19 extreme supply actions). The assessments provides information on the relative environmental performance of the alternatives and support transparent decision-making. The SEA can, therefore, be used to support the timing and implementation of drought actions within the DP27.

The assessment framework (**Table 4-2**) is structured as follows:

- The first and second columns of **Table 4-2** set out the SEA topics and objectives.
- The third column comprises the scale of the effect, which might relate to either geographical scale or the size of the population affected, on a scale of small, medium to large.
- The impact evaluation includes consideration of the nature of the impact, certainty of effect, duration and permanence (fourth, fifth and sixth columns of **Table 4-2**) in compliance with criteria for determining the likely significance of effects specified in the SEA Regulations Part 2, Regulation 9(2a) and Schedule 1. With respect to duration of temporary effects, short-term impacts are defined as those that last for up to six months, medium term impacts are those that extend from six months to two years whilst longer term temporary impacts are assessed as those that extend from two to five years. A 'significant long term' temporary impact category is used for those temporary effects that continue beyond five years in duration. For the purposes of this assessment, duration relates to impacts from initial implementation during a single drought event.
- The seventh column identifies the magnitude of the effect on a scale of low, medium and high.
- The value/sensitivity of the receptor(s) is identified in the eighth column on a scale of low, medium and high.
- Column nine provides a brief commentary and evaluation of the impact of the drought action on the objectives for each topic, with reference to the key questions proposed in **Table 4-1**. This brief commentary assumes the implementation of best practice in implementing the action; therefore the effects are referred to as residual and are largely temporary. Potential mitigation measures for any identified adverse effects arising from each action are identified within the appraisal framework.
- The residual adverse and beneficial effects (after application of best practice approaches and any appropriate and explicit mitigation measures) are presented in the tenth and eleventh columns respectively. These are identified separately so as to avoid mixing adverse and beneficial effects, in line with SEA best practice.

The SEA appraisal framework was applied to evaluate each drought action. Where potential adverse impacts were identified, the assessment followed the mitigation hierarchy, first avoidance, then reduction, and, where necessary, consideration of additional mitigation and compensatory measures.

Residual effects take into account any embedded and additional mitigation, as well as standard best-practice measures, in accordance with the ODPM Practical Guide and UKWIR's SEA guidance.

Assessments drew on quantitative data wherever available which was supplemented by qualitative evidence as needed, including spatial analysis, professional judgement, and topic-specific assessment guidelines.

Table 4-2: Example of a SEA Assessment Framework Table to be completed for each Drought Action

1. Topic	2. SEA Objective	3. Scale of effect: geographical &/or population affected (Small/ Medium/ Large)	4. Certainty of effect (Low/ Medium/ High)	5. Duration of effect (Short/ Medium /Long term)	6. Permanence of effect (Permanent/ Temporary)	7. Magnitude of effect (Low/ Medium/ High)	8. Value/ sensitivity of receptor (Low/ Medium/ High)	9. Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary	10. Residual Adverse Effect (Negligible/ Minor/ Moderate/ Major)	11. Residual Beneficial Effect (Negligible/ Minor/ Moderate/ Major)
Biodiversity, fauna and flora	1.1 To protect and where feasible enhance biodiversity including designated and other important habitats and species and to conserve and enhance natural capital and ecosystem services									
	1.2 To maintain and where possible improve freshwater fisheries									
	1.3 To avoid introducing or spreading INNS									
	1.4 To meet WFD objectives relating to biodiversity.									
Population and human health	2.1 To protect and enhance health and well-being, especially for the most vulnerable, and raise awareness of the importance and value of the water environment for health and well-being									
	2.2 To minimise impacts on business and local economy and ensure good access to essential services, including a secure and affordable supply of water									
	2.3 Protect and, where possible, enhance recreation and amenity facilities and increase access and									

1. Topic	2. SEA Objective	3. Scale of effect: geographical &/or population affected (Small/ Medium/ Large)	4. Certainty of effect (Low/ Medium/ High)	5. Duration of effect (Short/ Medium /Long term)	6. Permanence of effect (Permanent/ Temporary)	7. Magnitude of effect (Low/ Medium/ High)	8. Value/ sensitivity of receptor (Low/ Medium/ High)	9. Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary	10. Residual Adverse Effect (Negligible/ Minor/ Moderate/ Major)	11. Residual Beneficial Effect (Negligible/ Minor/ Moderate/ Major)
	enjoyment of the countryside and water environment									
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.									
	3.2 To promote the sustainable management of natural resources including efficient water resource management and to ensure water supply for homes and industry in the area is maintained.									
Water	4.1 To protect and where possible enhance river flows and groundwater resources, including when this impacts on habitats and/or navigation, and ensure sustainable management of abstractions or compensation flow),to maintain water supplies whilst protecting ecosystem functions that rely on water resources									
	4.2 To protect and where feasible enhance the quality of surface, transitional and coastal waters									
	4.3 To protect and enhance groundwater quantity and quality									

1. Topic	2. SEA Objective	3. Scale of effect: geographical &/or population affected (Small/ Medium/ Large)	4. Certainty of effect (Low/ Medium/ High)	5. Duration of effect (Short/ Medium /Long term)	6. Permanence of effect (Permanent/ Temporary)	7. Magnitude of effect (Low/ Medium/ High)	8. Value/ sensitivity of receptor (Low/ Medium/ High)	9. Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary	10. Residual Adverse Effect (Negligible/ Minor/ Moderate/ Major)	11. Residual Beneficial Effect (Negligible/ Minor/ Moderate/ Major)
	4.4 To promote actions to enable and sustain long term improvement in water efficiency.									
Soil, geology and land use	5.1 To protect and enhance geology, the quality and quantity of soils and geodiversity and promote a catchment-wide approach to land management.									
Air and Climate	6.1 To reduce greenhouse gas emissions									
	6.2 To maintain and improve air quality									
	6.3 To consider the need for adaptive measures for climate change									
Archaeology and cultural heritage	7.1 To protect and where feasible enhance sites and features of archaeological, historic, and architectural interest (such as heritage assets), and their settings.									
Landscape and visual amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.									

For each SEA objective, a residual effects assessment was determined and assigned a significance value which takes account of all columns. Significance comprises effects from ‘major beneficial’ to ‘major adverse’ and colour coding was used to complete the columns for residual effects in the assessment framework.

The resulting significance of effects are used in the prioritisation of actions. Also, where major adverse effects are predicted, broad actions envisaged to prevent, reduce and as fully as possible offset these effects on the environment (as a result of implementing the Drought Plan) are outlined in this Environmental Report where relevant/appropriate. In some cases, the significance of effects may not be clear cut, and professional judgement has been used to determine overall significance.

The definitions for ‘significance’ ratings are provided below:

- **Major** - effects represent key factors in the decision-making process. They are generally associated with sites and features of international, national or regional importance. If adverse, such resources/features are generally those which cannot be replaced or relocated.
- **Moderate** - effects are likely to be important considerations at a regional or district scale. If adverse, they are likely to be of potential concern.
- **Minor** - effects are not likely to be decision-making issues. Nevertheless, the cumulative effect of such issues may lead to an increase in the overall effects on a particular area or on a particular resource.
- **Negligible** - effects which are not perceptible, being within normal bounds of variation or the margin of forecasting error.
- **N/A** – consideration of the SEA objective is not considered applicable in the case of the action.

All actions, both supply-side actions and demand management actions, were assessed and to the same level of detail, in line with the SEA legislative requirements, national SEA guidance and the UKWIR SEA guidance. The level of detail for the environmental assessment of each action is consistent with the strategic nature of SEA.

An assessment framework table has been completed for each drought action (as identified in **Section 1.4**) and presented in full in **Appendix D**. The summary of the assessment is presented in **Section 5** as a colour-coded visual evaluation matrix. The matrix summarises the likely significance of impacts (which are discussed in full in the completed appraisal framework tables in **Appendix D**).

4.3.1 Consideration of Reasonable Alternatives

Within a Drought Plan, each individual drought action is treated as a reasonable alternative. In contrast to a WRMP, DP27 does not identify a single preferred package of measures; instead, it maintains a suite of potential drought actions that can be implemented incrementally depending on drought conditions. The SEA therefore does not select a preferred action but provides a comparative evaluation of the environmental performance of all actions, helping to inform their sequencing.

Traditional alternatives such as a ‘do minimum’ or ‘business as usual’ are not applicable in this context. During a drought, taking no action or maintaining current abstraction patterns would not meet statutory duties to secure supplies while protecting the environment, and therefore do not represent a realistic alternative. The operational nature of the Drought Plan requires a set of viable actions that can be implemented adaptively. Treating each action as a reasonable alternative reflects this regulatory and operational framework and ensures the SEA provides meaningful comparative evidence to support decision-making.

4.3.2 Mitigation Measures and Evaluation of Residual Effects

Mitigation measures were developed in the previous SEA where significant (i.e. moderate or major) adverse effects were identified. These measures were prepared as part of the assessment of individual DP22 actions and followed the mitigation hierarchy of avoidance, reduction and restoration/offsetting. The previous mitigation has been reviewed in light of the updated assessments, and additional measures have been recommended where necessary (see **Section 7.1**). The assessment evaluates the significant effects after mitigation has been applied.

Drought Plans are operational documents that set out how water companies will manage supplies during drought conditions, and as such they are not development proposals and do not carry a statutory requirement for Biodiversity Net Gain (BNG). Nevertheless, BNG principles have been considered across drought options in line with current environmental legislation and best practice. Where works fall under the Town and Country

Planning regime and constitute “major development,” BNG would be required under the Environment Act 2021. Although temporary drought permits are typically exempt, they still undergo environmental assessments and may require compensatory measures if impacts are anticipated. At this stage of drought planning, potential BNG measures can only be identified at a high level, with details refined as scheme designs progress. Where construction activities may cause permanent or temporary habitat loss, appropriate compensation or enhancement measures will be developed during detailed design and permitting, with full BNG assessments, including baselining and metric calculations, completed at the project level to ensure measurable biodiversity improvements can be achieved where required.

4.3.3 Cumulative effects

Schedule 2(6) of the SEA Regulations requires the assessment of “*The likely significant effects on the environment, including short, medium and long-term effects, permanent and temporary effects, positive and negative effects, and secondary, cumulative and synergistic effects...*” Cumulative effects is taken to include secondary and synergistic effects.

A detailed cumulative assessment of specific action combinations is not possible at this stage, as the sequence and grouping of actions cannot be predicted and their implementation depends on hydrological drought trigger conditions.

As such, the cumulative effects assessment is based on assumptions on sequencing and timing of drought actions as well as the combinations with other plans and projects.

The following cumulative assessments have been undertaken (see **Section 6** for details):

1. Within Anglian Water’s entire water supply area, assessment of cumulative effects of each demand management drought action with every other demand management drought action. Note that demand management drought actions are consistent across the whole of Anglian Water’s region. Demand management actions serve to reduce pressure on water resources by reducing the demand for water. Therefore, demand management actions have not been assessed in detail against each supply-side and drought permit action, other than to acknowledge that they will have a net beneficial effect by reducing pressure on water resources.
2. For each supply-side action, assessment of the cumulative effects of the action with Anglian Water’s existing abstraction licences that operate within the zone of influence of the drought action.
3. For each supply-side action, assessment of cumulative effects with any other supply-side action. Mutually exclusive actions (e.g. those that draw upon the same resource or use the same site) have been identified.
4. Assessment of cumulative effects of Anglian Water’s DP27 with the Anglian River Basin Management Plan.
5. Assessment of cumulative effects of Anglian Water’s DP27 with drought actions included in the Canal and River Trust DPs.
6. Assessment of cumulative effects of Anglian Water’s DP27 with drought actions included in other neighbouring water company DPs.
7. Assessment of cumulative effects of Anglian Water’s DP27 with other relevant policies and plans.

Neighbouring water companies have been invited to consult on the DP27 and Anglian Water will be consulted on their plans. This enables potential effects with other plans to be identified, particularly in the context of spatial and temporal proximity. This is especially important in identifying potential water resources effects, although licence changes would always be subject to further investigation by the water companies themselves and the Environment Agency. Potential cumulative effects with wider plans were also assessed. If effects are identified, they can be ameliorated with early stage mitigation and associated monitoring.

Cumulative assessments of drought actions with each other have been undertaken assuming as a worst case that the operation of the two actions could occur simultaneously. Spatial proximity and therefore potential effects on a common receptor are the primary considerations (e.g. the same designated area or reach of river).

In the event of a drought, the SEA findings will be revisited, and a cumulative assessment of the selected actions will be undertaken, drawing on the results of the individual (one-to-one) action assessments.

4.4 LIMITATIONS OF THE STUDY

Certain limitations are inherent in drought planning. Where uncertainties were identified, the assessment adopted a precautionary approach and highlighted where further, more detailed assessment would be required at the implementation stage.

The SEA is a high-level assessment that relies on publicly available information and is intended to identify potential environmental risks. Key data sources include statutory bodies and previous environmental assessments of Anglian Water's drought permit actions. Due to the extensive scale of the Anglian Water supply area, establishing a consistent sub-regional baseline presented challenges, with data available at varying spatial resolutions. Spatial datasets were obtained for most of SEA topics, and baseline conditions were mapped where appropriate. In some cases, reporting cycles mean that some information is dated.

Although existing monitoring data has informed the baseline, no new field surveys or primary data collection were undertaken for the SEA. At the level of individual actions, some additional environmental considerations may not have been captured and could influence the feasibility or environmental performance of a specific drought action.

Limitations relating to the cumulative (in-combination) assessment are described in **Section 4.3**. Several factors contribute to these limitations:

- The timing, sequencing, and combination of drought actions cannot be predicted in advance.
- Some actions remain conceptual and lack detailed design information.
- Demand, standard supply and the extreme demand and supply actions do not have defined locations, meaning there is insufficient spatial information to assess geographical cumulative effects.
- Environmental conditions during a future drought event cannot be known at this stage.

EARs have been prepared for the drought permit sites in support of DP27, in line with the latest Drought Plan Guidance. This guidance states that the level of detail within an EAR should be proportionate to the level of risk posed by the proposed action, taking into account the scale of potential impacts, expected frequency of use, and the sensitivity or importance of the site. The EARs provide the level of detail necessary to help identify potential residual effects of each drought action. Limitations associated with the data used for each assessment are outlined in the corresponding EARs.

Information incorporated from the EARs includes potential impacts on environmental features such as NERC species, designated sites, landscape, and recreational receptors; changes to hydrological flow regimes and related geomorphological processes; and effects on water quality. Where limitations or data gaps are known, these are noted within the SEA appraisal tables. Consideration should also be given to the evolution of monitoring datasets.

The methodology has been developed to ensure full compliance with the SEA Regulations while acknowledging the operational complexities and uncertainties inherent in drought planning. This approach delivers a transparent, systematic, and proportionate assessment of the likely environmental effects.

5. ASSESSMENT OF DROUGHT ACTIONS

5.1 INTRODUCTION

This section presents the findings of the SEA for DP27. The assessment considers the likely significant environmental effects associated with implementing each drought action, following the methodology outlined in **Section 4**.

The appraisal has been carried out at the level of individual actions. Because the precise combination and sequence in which actions may be deployed cannot be predicted, each action is assessed on a standalone basis, with cumulative (in-combination) effects addressed separately in **Section 6**.

Detailed assessment matrices are provided in **Appendix D**. A summary of the likely significant residual effects is set out in this section, using a series of VE matrix summaries, with the colour coding below used to indicate significance:

Legend

Major Beneficial	
Moderate Beneficial	
Minor Beneficial	
Negligible	
Minor Adverse	
Moderate Adverse	
Major Adverse	
NOT APPLICABLE	

Demand actions assessed are generally applicable across the supply area, whereas supply actions are location-specific.

5.2 DEMAND ACTIONS

A visual summary of SEA conclusions for each of the demand-side actions in Anglian Water's DP27 is provided in **Table 5-1**, with the extreme demand actions covered in **Section 5.5**. The completed appraisal tables for each of the drought actions are provided in **Appendix D**.

Overall, demand-side actions serve to reduce pressure on water resources by reducing customer demand for water, and therefore reducing abstraction at source. This will in turn contribute to reducing the amount of energy needed for water abstraction, treatment and distribution.

Communications campaigns, water-efficiency activities and customer metering all generate negligible to minor adverse effects, associated with temporary vehicle movements, energy use or changes in public behaviour. These actions also provide meaningful benefits by reducing overall water demand, supporting the maintenance of surface and groundwater levels, and strengthening the long-term resilience of the water supply system. Customer metering and targeted leakage reduction are particularly effective, offering sustained water savings, reduced abstraction pressure and operational efficiencies that contribute to improved water quantity, water quality and ecosystem health.

Tariffs and pressure optimisation introduce a more complex balance of effects. Tariffs can lead to moderate adverse effects on certain business sectors, recreational activities and local amenities due to increased operational costs. Pressure optimisation may also result in minor short-term impacts on biodiversity, population and human health, and air quality during construction or adjustment works. Despite these drawbacks, both actions play an important role in reducing demand and improving system efficiency. Tariffs encourage behavioural change and long-term water efficiency, while Pressure optimisation reduces leakage and supports more sustainable management of abstractions. Together, these actions contribute to maintaining flows, protecting ecosystems and enhancing the resilience of water supplies to drought.

As restrictions escalate, the scale of adverse effects increases. Temporary Use Bans (TUBs) can result in moderate adverse effects on businesses reliant on outdoor water use, alongside minor effects on recreational amenity and household wellbeing. Non-Essential Use Bans (NEUBs) have the potential for major adverse

economic and social effects due to the breadth of restrictions imposed, with additional moderate effects on recreation, tourism and community wellbeing. Nevertheless, both actions deliver important benefits by reducing demand, protecting natural resources and maintaining essential supplies during severe drought conditions.

Emergency Drought Orders represent the most severe intervention when all other actions have been exhausted. These actions are associated with significant major adverse effects on population, human health, water-dependent businesses and recreational assets. Although Emergency Drought Orders may cause substantial disruption, they remain a critical safeguard for water supplies and environmental receptors in extreme drought conditions.

Overall, the assessment demonstrates an escalation pattern where early-stage demand actions provide environmental benefits with minimal adverse effects, while higher-level restrictions carry increasing social and economic costs but remain essential for maintaining supply security during severe drought.

Table 5-1: Visual Evaluation Matrix Summary for Demand Actions

Action		SEA Topics and Objectives																			Commentary
		Biodiversity				Population & Human Health			Material Assets & Resource Use		Water				Soils, Geology & Land Use	Air & Climate			Archaeology & Cultural Heritage	Landscape	
		1.1	1.2	1.3	1.4	2.1	2.2	2.3	3.1	3.2	4.1	4.2	4.3	4.4	5.1	6.1	6.2	6.3	7.1	8.1	
Communications campaigns and messaging	Adverse						0														No significant adverse effects have been identified for this drought action. Negligible adverse effects have been identified on recreation due to changes in public perception of water-based recreation during heightened drought messaging.
	Beneficial	+	+		+	+	0	+	+	+	+	+	+	+			0	+	0	0	Minor beneficial effects include reducing demand for water and securing essential supplies of water for customers/businesses, increasing public awareness, and helping maintain natural flows and ecosystem resilience. Reducing the demand for water will also have minor beneficial effects on maintaining surface water and groundwater levels/flows, sustainable management of abstraction and enabling long term improvements in water efficiency. Reducing water demand will also help to improve the climate resilience of water supplies to drought.
Water efficiency activities	Adverse								0							0	0				Negligible adverse effects on material assets and resource use, air quality and greenhouse gas emissions associated with vehicle movements and energy consumption.
	Beneficial	+	+		+	+	+	+	+	+	+	+	+	+				+	0	0	Minor beneficial effects include reducing demand for water and securing essential supplies of water for customers/businesses. Reducing the demand for water will also have minor beneficial effects on maintaining surface water and groundwater levels/flows, sustainable management of abstractions and enabling long term improvements in water efficiency. Reducing water demand will also help to improve the resilience of water supplies to drought.
Customer Metering	Adverse					0			0						0	-	-				Minor adverse effects identified are associated with emissions to air (air pollutants and greenhouse gas emissions) as a result of vehicle movements. Other adverse effects identified are negligible.
	Beneficial	+	+		+	+	0	+	+	+	+	+	+	++			+	+	0	0	Moderate to minor beneficial effects have been identified with respect to sustainable provision of water through water savings brought about by real-time customer visibility of water consumption and through leakage reduction. Reduction in demand will have beneficial effects on water quantity, quality and associated ecosystems as well as resultant energy savings. These effects are generally considered to be long term and permanent in nature.
Tariffs	Adverse					-	--	-		-											Tariffs could lead to moderate adverse effects on recreation, tourism assets, and local amenities. Minor adverse effects are also anticipated towards businesses, primarily due to increased operational costs associated with higher water charges. Minor effects on resource use to ensure water supply for homes and industry are also anticipated.
	Beneficial	+	+		+	+			+	+	+	+	+	+			0	+	0	0	Minor beneficial effects include reducing demand for water and securing essential supplies of water for customers/businesses. Reducing the demand for water will also have minor beneficial effects on maintaining surface water and groundwater levels/flows resulting in beneficial effects on biodiversity, flora and fauna, sustainable management of abstraction and enabling long term improvements in water efficiency. Reducing water demand will also help to improve the resilience of water supplies to drought.
Targeted Leakage Reduction	Adverse	0	0	0		0	0		0		0				0	-	-		0	0	Minor adverse effects identified are associated with emissions to air (air pollutants and greenhouse gas emissions) as a result of construction activities and vehicle movements. Other adverse effects identified are negligible.

Action		SEA Topics and Objectives																			Commentary
		Biodiversity				Population & Human Health			Material Assets & Resource Use		Water				Soils, Geology & Land Use	Air & Climate			Archaeology & Cultural Heritage	Landscape	
		1.1	1.2	1.3	1.4	2.1	2.2	2.3	3.1	3.2	4.1	4.2	4.3	4.4	5.1	6.1	6.2	6.3	7.1	8.1	
	Beneficial	+	+		+	++	+	++	0	+	0	+	+	+			+	+		0	Moderate to minor beneficial effects have been identified with respect to sustainable provision of water through water savings that would have otherwise been lost to leakage after having been abstracted at source, and associated system resilience. These effects are generally considered to be long term and permanent in nature. Other benefits are associated with reduced need for abstraction, pumping and treatment, and associated energy use and operational emissions savings.
Pressure Optimisation	Adverse	-	-	0		0	0	-	-						0	-	-		0	0	Minor adverse effects have been identified in relation to potential impacts on biodiversity, flora and fauna, population and human health, as well as waste generation and emissions to air (including air pollutants and greenhouse gases) resulting from vehicle movements during the construction phase. All other identified adverse effects are considered negligible.
	Beneficial	+	+		+	+		+	0	+	+	+	+	+			+	+	0	0	Minor beneficial effects include reducing demand for water and securing essential supplies of water for customers/businesses. Reducing the demand for water will also have minor beneficial effects on maintaining surface water and groundwater levels/flows, sustainable management of abstractions and enabling long term improvements in water efficiency and secondary benefits for biodiversity, ecosystems, and the wider natural environment. Reducing water demand will also help to improve the resilience of water supplies to drought.
Temporary Use Ban (TUBs) – Level 2	Adverse					-	-	--											0	0	A moderate adverse effect has been identified in terms of promoting a sustainable economy due to the effect of the ban on some businesses (e.g. landscaping/horticulture) that rely on domestic water-using appliances/uses (e.g. sprinklers/hosepipes). Minor adverse effects are associated with temporary impacts on standards of living and recreational amenity.
	Beneficial	+	+		+	++	+	+	+	+	+	+	+	+				+	0	0	Moderate beneficial effects include reducing the demand for water and securing supply of water as well as protecting natural resources and ecosystem services. Reducing the demand for water will also have minor beneficial effects on maintaining surface water and groundwater levels/flows, sustainable management of abstractions and enabling long term improvements in water efficiency. Reducing water demand will also help to improve the resilience of water supplies to drought.
Non-essential Use Ban (NEUBs) – Level 3	Adverse					-	--	---											0	0	Restrictions of water use and impacts on businesses/economy could lead to major adverse effects. Moderate adverse effects are associated with restriction of water use and effects on recreation and tourism assets, and on local amenities, and minor effects on public wellbeing due to restrictions which may reduce personal or community activities.
	Beneficial	+	+		+	++	+	+	+	+	+	+	+	+				+	0	0	Moderate beneficial effects as a result of maintenance of supply to consumers at times of drought, anticipated on protecting human health as well as natural resources and ecosystem services. Minor beneficial effects in terms of reducing demand and improving the resilience of water supplies to drought, maintaining surface water and groundwater levels/flows and sustainable management of abstraction and supporting overall water efficiency.
Emergency drought order – Level 4	Adverse					---	---	---										---	0	0	Significant major adverse effects are predicted relating to the implementation of the Emergency Drought Order with impacts on population and human health, including potential drinking water quality issues and impacts on water-dependent recreational assets and businesses/economy. An Emergency Drought Order is not consistent with sustainable resource use or providing secure water supplies for people and businesses, and will cause significant disruption to domestic and commercial life.

Action		SEA Topics and Objectives																			Commentary	
		Biodiversity				Population & Human Health			Material Assets & Resource Use		Water				Soils. Geology & Land Use	Air & Climate			Archaeology & Cultural Heritage	Landscape		
		1.1	1.2	1.3	1.4	2.1	2.2	2.3	3.1	3.2	4.1	4.2	4.3	4.4	5.1	6.1	6.2	6.3	7.1	8.1		
	Beneficial	+	+		+	++			+		+	+	+	+				0	0	0	Moderate to minor beneficial effects include a reduction in the demand for water, maintenance of water flows/levels and maintenance of a water supply to consumers in an extreme drought including protection for sustainable natural resources and ecosystem services.	

5.3 DROUGHT PERMIT ACTIONS

A visual summary of the findings of the SEA for each of the drought permit actions as listed in **Section 1.4.2.2** is provided in **Table 5-2**. The completed appraisal tables for each of the drought actions are provided in **Appendix D**. The assessments for these actions have been informed by detailed EARs and HRAs.

Drought permit actions do not require any construction, as they rely entirely on existing abstraction points, pumping stations and river infrastructure. All effects arise from operational changes only, such as temporary adjustments to licensed flows or abstraction rates.

5.3.1.1 *River Nene (Pitsford Water) Drought Permit*

The summer and winter drought permits for the River Nene (Pitsford Water) have broadly similar environmental and social effects, with differences driven primarily by seasonal flow conditions. In both seasons, there are moderate adverse effects on biodiversity, with sensitive sites such as Storton's Pits Local Nature Reserve (LNR) and species, including spined loach and bullhead, affected by reduced flows and habitat availability, though effects are generally more pronounced in summer due to lower river flows and greater pressure on WFD fish status. Non-statutory sites experience minor effects in both seasons, and in each case the abstraction contributes ecological benefits by refilling Pitsford Reservoir SSSI. Natural resources and ecosystem services also face moderate adverse effects in both summer and winter, reflecting medium-level changes to sediment dynamics and flow hydraulics, though winter effects are slightly tempered by higher baseline flows. INNS risks remain negligible beneficial across both seasons, as reduced flows and lower recreational activity may marginally limit downstream dispersal.

Population and human health benefit moderately year-round from securing up to 17.05 Ml/d of supply, supporting community resilience. Recreation is more affected in summer, when navigation faces major effects in several reaches; in winter, lower boating activity reduces disruption and effects are minor. Economic resilience benefits are moderate in both seasons.

Material assets and resource use show negligible adverse effects and negligible to minor benefits in both assessments, reflecting reliance on existing infrastructure and improved operational efficiency.

Water quality impacts are more severe in summer, with major orthophosphate risks and moderate dissolved oxygen risks, whereas winter sees reduced orthophosphate sensitivity and negligible, minor risks for other parameters; hydrological effects follow the same pattern, with major to moderate effects upstream in both seasons but greater downstream attenuation in winter. Sustainable abstraction and WFD compliance show moderate adverse effects in summer and minor adverse effects in winter, though both seasons deliver beneficial effects by providing additional water for public water supply.

Soil, geology and land use effects are consistent across seasons, with minor adverse effects on geomorphology.

Air quality and greenhouse gas emissions effects remain negligible adverse in both seasons due to slight increases in pumping energy, while climate adaptation benefits are moderate as the permits strengthen drought resilience.

Archaeology and cultural heritage experience minor adverse effects in both seasons due to short-term drawdown risks, and landscape and visual amenity remain unaffected given the absence of construction and lack of proximity to designated landscapes.

5.3.1.2 *River Nene (Rutland Water) Drought Permit*

The River Nene (Rutland Water) Drought Permit involves a temporary 50% reduction in the MRF on the River Nene to support additional abstraction during severe drought conditions. The assessment shows that the permit gives rise to a consistent pattern of environmental effects, with seasonal conditions influencing sensitivity but not altering the overall nature of impacts between summer and winter. The reduction in flow leads to notable hydrological changes that present significant risks to designated sites, protected species and WFD biological elements. The HRA identifies potential adverse effects on the Nene Washes SPA/SAC/Ramsar and Rutland Water SPA/Ramsar, driven primarily by deteriorations in orthophosphate and dissolved oxygen levels. The EARs also identify major impacts on notable fish species, with moderate effects on invertebrates, macrophytes and phytobenthos. While summer conditions heighten the likelihood of algal blooms and recreational disturbance, and winter conditions reduce recreational sensitivity, the overall ecological risk profile

remains similar. Abstraction contributes positively to the refill of Rutland Water SSSI, supporting ecological resilience within the reservoir.

The drought permit provides a major beneficial effect in both seasons by securing essential public water supplies (62.5 Ml/d in winter and 75 Ml/d in summer). Recreational effects are minor or negligible, with slightly greater sensitivity during periods of higher activity. The action uses existing infrastructure and does not involve construction, waste generation or land-take, resulting in negligible effects on resource efficiency. It contributes positively to water resource management by supporting drought resilience and reservoir storage.

Hydrological effects are a key consideration, with reduced flows leading to major adverse impacts on water levels and water quality. Orthophosphate impacts are consistently major, dissolved oxygen impacts are minor to moderate, and ammonia remains negligible. WFD risks reflect these patterns, with potential temporary deterioration during drought conditions followed by recovery once flows return to normal. Downstream abstraction impacts range from minor to major depending on flow conditions and seasonal demand, with more significant impacts occurring during summer.

Effects on soils are minor adverse, linked to temporary constraints on irrigation water availability, while geomorphological impacts remain minor or negligible due to the low-energy environment and absence of physical works. Air quality and greenhouse gas emissions impacts are negligible, limited to small increases in pumping energy. The drought action contributes positively to climate adaptation by supporting long-term resilience to more frequent drought conditions. No construction is required, and the action is not located near designated landscapes. Under drought conditions, the action is unlikely to add to landscape or visual impacts.

5.3.1.3 *River Gt Ouse (Grafham Water) Drought Permit*

The summer and winter drought permits for the River Gt Ouse (Grafham Water) show broadly consistent environmental and social effects, with differences driven mainly by seasonal flow conditions and the greater sensitivity of the system during summer low flows. In both seasons, biodiversity is adversely affected, though effects are more severe in summer, where reduced flows lead to major adverse effects on designated sites such as the Ouse Washes SAC/SPA/SSSI/Ramsar, moderate effects on protected species, including spined loach, bullhead, brook lamprey and European eel, and moderate adverse effects on WFD receptors. Winter effects remain moderate overall, with higher baseline flows buffering hydrological and water quality changes and reducing the magnitude of effects on designated sites and species. In both seasons, abstracted water supports ecological conditions at Grafham Reservoir SSSI, providing a minor beneficial effect. Natural resources and ecosystem services experience minor adverse effects, with summer showing slightly greater sensitivity due to lower flows, though in both cases sediment and hydraulic changes remain small and localised, and no construction means no habitat loss or Biodiversity Net Gain (BNG) opportunities. INNS risks are negligible beneficial in both seasons, as reduced flows may slightly limit downstream drift of demon shrimp.

Population and human health benefit substantially in both summer and winter, with major beneficial effects from securing up to 68 Ml/d of supply, supporting community resilience and economic stability. Recreational effects are minor adverse in both seasons, though summer sees more noticeable effects on navigation due to reduced draught, restricted lock operations and increased algal growth, while winter effects are negligible.

Material assets and resource use show negligible adverse effects with negligible to minor benefits across both seasons, as the action uses existing infrastructure. Water quality impacts are more pronounced in summer, with moderate to major deterioration in orthophosphate and minor risks for ammonia and dissolved oxygen, whereas winter sees only minor orthophosphate risks and negligible risks for other parameters. Hydrological effects follow the same pattern, with major adverse effects under Stage 2 in summer and minor to moderate effects in winter. Sustainable abstraction and WFD compliance show major adverse effects in summer and minor adverse effects in winter due to temporary WFD risks, but both seasons deliver major beneficial effects by providing additional water for public water supply.

Soil, geology and land use effects are consistent across seasons, with moderate adverse effects where reduced irrigation affects high-grade agricultural soils and where sediment transport is altered.

Air quality and greenhouse gas emissions effects remain negligible adverse in both seasons due to slight increases in pumping energy, while climate adaptation benefits are major as the permits strengthen drought resilience. Archaeology and cultural heritage experience minor adverse effects in both seasons due to short-term drawdown risks, and landscape and visual amenity remain unaffected given the absence of construction and lack of proximity to designated landscapes.

5.3.1.4 *Lower Colne (Ardleigh Reservoir) Drought Permit*

The Lower Colne (Ardleigh Reservoir) drought-permit action results in localised, short-term and fully reversible effects, with the only notable impact being a temporary drawdown in the confined chalk aquifer.

Biodiversity effects are negligible adverse overall, with minor localised benefits where slightly increased flows improve wetted habitat and sediment redistribution for species such as bullhead and European eel. No designated sites, NERC habitats or WFD features are affected. Natural resources and ecosystem services experience negligible adverse effects, with only minor hydraulic changes in one reach and no effects on groundwater dependent terrestrial ecosystems (GWDTEs). INNS risks remain negligible, with potential suppression of low-energy habitats for INNS balanced by a small risk of fragment dispersal.

Water quality effects are negligible, while augmentation provides minor short-term benefits to surface flows. Groundwater modelling indicates a temporary but substantial drawdown in the confined chalk aquifer, resulting in a moderate adverse effect on groundwater levels, though without ecological consequences due to the confining geology. Population and community wellbeing benefit from securing up to 7 Ml/d of additional supply, supporting resilience and economic stability. Recreational effects are negligible given the minimal hydrological change. Material assets and resource use show negligible adverse effects from small increases in pumping energy, offset by operational efficiency gains. Air quality and greenhouse gas emissions effects are negligible. Heritage and landscape receptors experience negligible adverse effects, limited to temporary changes in river levels during drought.

5.3.1.5 *Wellington Wellfield (Stoke Ferry & Marham WTW) Drought Permit*

Biodiversity effects are moderate adverse overall. Increased abstraction is predicted to lower groundwater levels locally, affecting a wide range of designated sites. Major adverse effects are anticipated for The Brinks, Northwold SSSI and Didlington Park Lakes SSSI, with moderate effects on Breckland SAC, Weeting Heath, Stanford Training Area and other wetland and heathland sites. Several NERC Priority Habitats, including reedbeds, lowland fen, grazing marsh and purple moor grass/rush pastures, are sensitive to drawdown. Amphibians such as great crested newt and wetland birds including bittern and curlew may experience moderate adverse effects due to reduced breeding and foraging habitat. WFD biological elements show minor adverse effects, and INNS risks are minor adverse where altered wetted areas may favour macrophyte INNS.

Water quality effects are negligible, with no significant changes predicted for ammonia, dissolved oxygen or orthophosphate. However, groundwater modelling indicates moderate temporary drawdown in the chalk aquifer, with effects varying from major to minor depending on distance and receptor sensitivity. Surface-water effects remain negligible to minor. Sustainable abstraction objectives show negligible adverse WFD risks, balanced by moderate beneficial effects from additional potential supply of up to 15 Ml/d.

Population and human health experience moderate beneficial effects, as the action provides a valuable temporary supply benefit that supports community wellbeing and economic stability. Recreational effects are negligible to minor adverse, with hydrological changes too small to meaningfully affect angling or navigation.

Material assets and resource use show negligible adverse effects, limited to small increases in pumping energy, with negligible beneficial effects from improved operational flexibility. Air quality and greenhouse gas emissions effects are negligible, and the action contributes modestly to climate adaptation by supporting drought resilience. Heritage and landscape receptors experience negligible adverse effects.

5.3.1.6 *Costessey (Heigham WTW) Drought Permit*

Biodiversity effects are minor adverse overall. The EAR and HRA identify minor effects on the River Wensum SAC which is hydrologically connected to the abstraction points, requiring mitigation and monitoring. Numerous Local Wildlife Sites, County Wildlife Sites and NERC Priority Habitats, including chalk river, lowland fen, lowland meadow and grazing marsh, are expected to experience minor adverse effects. Minor effects are also predicted for species such as bullhead, brook lamprey, brown trout, European eel and white-clawed crayfish. INNS risks are minor adverse, as reduced flows may favour proliferation of demon shrimp, Nuttall's waterweed and New Zealand pigmyweed. WFD biological elements show minor adverse effects.

Water-environment effects are modest: negligible adverse effects on water quality, with only orthophosphate showing sensitivity to small flow changes, and negligible to minor hydrological effects across the affected

reaches. Sustainable abstraction objectives show minor adverse WFD risks, balanced by a moderate beneficial effect from securing up to 24 Ml/d of additional supply. The action does not directly promote water efficiency but provides a negligible indirect benefit by supporting operational resilience during drought.

Population and human health experience moderate beneficial effects, as the action provides a significant temporary supply benefit, supporting community resilience and economic stability. Recreational effects are negligible to minor adverse, with localised impacts on angling where reduced depth or velocity may require adjustments in fishing location or technique.

Material assets and resource use show negligible adverse effects, limited to minor increases in pumping energy, with negligible beneficial effects from improved operational flexibility. Air quality and greenhouse gas emissions effects are negligible, and the action contributes moderately to climate adaptation by strengthening drought resilience. Heritage and landscape receptors experience negligible adverse effects.

5.3.1.7 River Trent (Hall WTW)

Biodiversity effects are negligible adverse overall. No likely significant effects on designated sites, including the Humber Estuary SAC/SPA/Ramsar, Chesterfield Canal SSSI and Scotton & Laughton Forest Ponds SSSI have been identified. NERC species, such as river and sea lamprey, eel, otter, water vole and several BOCC bird species, occur within the Zol, but negligible hydrological change means no significant effects are expected. WFD biological elements also experience negligible adverse effects. Natural resources and ecosystem services are negligibly affected, as there is no construction, no habitat loss and minimal changes to sediment dynamics, flow hydraulics or channel morphology. INNS risks remain negligible, as the action does not create new pathways for spread and the Trent is not expected to experience hydrological stress.

Water-environment effects are negligible, with no material changes to ammonia, dissolved oxygen or orthophosphate, and negligible hydrological effects across all reaches. Sustainable abstraction objectives show negligible adverse WFD risks, balanced by a major beneficial effect from securing up to 40 Ml/d of additional supply. The action does not directly promote water efficiency but provides a negligible indirect benefit by supporting operational resilience during drought.

Population and human health experience major beneficial effects, as the action provides a substantial temporary supply benefit, supporting community resilience and economic stability. Recreational effects are negligible due to the absence of hydrological change.

Material assets and resource use show negligible adverse effects, limited to small increases in pumping energy, with negligible beneficial effects from improved operational flexibility. Air quality and greenhouse gas emissions effects are negligible, and the action contributes strongly to climate adaptation by enhancing drought resilience. Heritage and landscape receptors experience negligible adverse effects.

Table 5-2: Visual Evaluation Matrix Summary for Drought Permit Actions

Action	SEA Topics and Objectives																				Commentary
		Biodiversity				Population & Human Health			Material Assets & Resource Use		Water				Soils, Geology & Land Use	Air & Climate			Archaeology & Cultural Heritage	Landscape	
		1.1	1.2	1.3	1.4	2.1	2.2	2.3	3.1	3.2	4.1	4.2	4.3	4.4	5.1	6.1	6.2	6.3	7.1	8.1	
River Nene (Pitsford Water) - Summer	Adverse	--	-		-		-		0		-	-	-		-	0	0		-		Moderate adverse effects on surface flows and wetted width in the River Nene resulting in major risks to orthophosphate concentrations and siltation has the potential to cause significant effects to biodiversity, namely fish and macroinvertebrate communities and a number of NERC and notable species (mostly fish species). Further moderate adverse effects are anticipated towards recreation due to reduced river flows. Minor effects on soil and archaeology and cultural heritage due to short term drawdown in river levels.
	Beneficial	+		0		++		++	0	+			++	0	+			++			Moderate beneficial effects associated with the maintenance of essential public water supplies during times of drought, and improved resilience to drought effects. Minor beneficial effects for biodiversity, flora and fauna relating to the refilling of Pitsford Reservoir SSSI, and material assets and resource use and soil relating to the efficient use of land.
River Nene (Pitsford Water) - Winter	Adverse	--	--		--		-		0		--	--	--		-	0	0		-		Predominantly minor, but with some moderate adverse effects on surface flows and wetted width in the River Nene, may increase the risk of elevated orthophosphate concentrations and siltation. These changes have the potential to cause significant effects on biodiversity, particularly fish and macroinvertebrate communities, as well as several NERC and notable species (mostly fish). Further minor adverse effects are anticipated towards water quality, recreation, soil, geology and land use, and archaeology and cultural heritage due to short term drawdown in river levels.
	Beneficial			0		++		++	0	+			++	0	+			++			Moderate beneficial effects associated with the maintenance of essential public water supplies during times of drought, and improved resilience to climate change. Minor beneficial effects associated with enhancing the efficiency of water resource management and the efficient use of land.
River Nene (Rutland Water) - Summer	Adverse	--	0	-	--		-		0		--	---	--		-	0	0		0		Major adverse effects on surface flows and wetted width in the River Nene resulting in major risks to orthophosphate concentrations and siltation has the potential to cause significant effects to biodiversity, namely fish and macroinvertebrate communities and a number of NERC and notable species (mostly fish species). Further minor effects on recreation, INNS and soil are anticipated due to short term drawdown in river levels.
	Beneficial					+++		+++	0	+			+++	0	+			+++			Major beneficial effects associated with the maintenance of essential public water supplies during times of drought, and improved resilience to drought effects. Minor beneficial effects are anticipated towards material assets and resource use and soil, geology and land use, relating to the efficient use of land.
River Nene (Rutland Water) - Winter	Adverse	--	0	-	--		0		0		--	---	--		-	0	0		0		Major adverse effects on surface flows and wetted width in the River Nene resulting in major risks to orthophosphate concentrations and siltation has the potential to cause significant effects to biodiversity, namely fish and macroinvertebrate communities and a number of NERC and notable species (mostly fish species). Further minor effects on INNS and soil are anticipated due to short term drawdown in river levels.
	Beneficial					+++		+++	0	+			+++	0	+			+++			Major beneficial effects associated with the maintenance of essential public water supplies during times of drought, and improved resilience to drought effects. Minor beneficial effects are anticipated towards material assets and resource use and soil, geology and land use, relating to the efficient use of land.

Action	SEA Topics and Objectives																				Commentary
		Biodiversity				Population & Human Health			Material Assets & Resource Use		Water				Soils, Geology & Land Use	Air & Climate			Archaeology & Cultural Heritage	Landscape	
		1.1	1.2	1.3	1.4	2.1	2.2	2.3	3.1	3.2	4.1	4.2	4.3	4.4	5.1	6.1	6.2	6.3	7.1	8.1	
River Gt Ouse (Grafham Water) - Summer	Adverse	-	-		-		-		0		-	-	-		-	0	0		-		Major adverse effects are anticipated towards the Ouse Washes SAC/SPA/SSSI, water quality, WFD compliance, and surface water levels and flows due to the hydrological effect of the drought action. Moderate adverse effects are anticipated towards a number of protected species, and soil, geology and land use due to the presence of high value soil in the Zol and the actions ability to temporarily lower soil moisture and groundwater recharge. Minor adverse effects are anticipated towards recreation and archaeology and cultural heritage due the altered hydrology.
	Beneficial	+	+	0		+++		+++	0	+			+++	0	+			+++			Major beneficial effects are anticipated towards population and human health, water and adaptation to climate change due to the potential additional supply. Minor beneficial effects are anticipated towards material assets and resource use due to the drought action's ability to enhance the efficiency of water resource management, and soil, geology and land use as the scheme takes place on previously developed land which supports the efficient use of land. There would also be a minor beneficial effect on biodiversity, flora and fauna, as the MRF retains existing protections for flow-sensitive species. In addition, ecological benefits would result from refilling Grafham Reservoir SSSI.
River Gt Ouse (Grafham Water) - Winter	Adverse	--	-		-		0		0		-	--	-		--	0	0		-		Moderate adverse effects are anticipated towards soil health, a number of protected species, and surface water levels and flows due to the hydrological effect of the drought action. Minor adverse effects are anticipated towards water quality, WFD compliance objectives, and archaeology and cultural heritage, due to the effects of the altered hydrology.
	Beneficial	+	+	0		+++		+++	0	+			+++	0	+			+++			Major beneficial effects are anticipated towards population and human health, water and adaptation to climate change due to potential additional supply. Minor beneficial effects are anticipated towards soil, geology and land use as the scheme takes place on previously developed land which supports efficient use of land, and material assets and resource use due to the drought action's ability to enhance the efficiency of water resource management. There would also be a minor beneficial effect on biodiversity, flora and fauna, as the MRF retains existing protections for flow-sensitive species. In addition, ecological benefits would result from refilling Grafham Reservoir SSSI.
Lower Colne (Ardleigh Reservoir)	Adverse	0	0	0	0		0		0		0	--	0			0	0		0		One moderate adverse effect is anticipated towards groundwater levels and aquifer functioning as the increased abstraction could cause a substantial temporary drawdown in the confined chalk aquifer with a long recovery period. All other effects are assessed as negligible.
	Beneficial	0		0	0	++	0	++	0	+		+	++	0	0			++			Moderate beneficial effects are anticipated towards population and human health, water, and air and climate due to the maintenance of essential public water supplies during times of drought and the improving adaptation to climate change. Minor beneficial effects are anticipated towards water due to supplemented flows, and material assets and resource use due to this action's ability to enhance the efficiency of water resource management.
Wellington Wellfield (Stoke Ferry & Marham WTW)	Adverse	--	-	-	-		0		0		0	--	0		0	0	0		0		Moderate adverse effects are anticipated towards a number of protected sites and species, as well as groundwater levels and flows. Minor adverse effects have also been identified with regard to the risk of spread of INNS and WFD receptors (macroinvertebrates and macrophytes).

Action	SEA Topics and Objectives																				Commentary
		Biodiversity				Population & Human Health			Material Assets & Resource Use		Water				Soils, Geology & Land Use	Air & Climate			Archaeology & Cultural Heritage	Landscape	
		1.1	1.2	1.3	1.4	2.1	2.2	2.3	3.1	3.2	4.1	4.2	4.3	4.4	5.1	6.1	6.2	6.3	7.1	8.1	
	Beneficial					++		++	0	+			++	+				++			Moderate beneficial effects are anticipated towards population and human health, water, and air and climate due to the maintenance of essential public water supplies during times of drought and the improving adaptation to climate change. Minor beneficial effects are anticipated towards material assets and resource use, and water, due to this action's ability to enhance the efficiency of water resource management and highlight the importance of efficiency measures.
Costessey (Heigham WTW)	Adverse	-	-	-	-		0		0		0	-	-		0	0	0		0		Minor adverse effects are anticipated towards a number of protected sites and species, riverine habitats, as well as the risk of spread of INNS. Minor adverse effects are also anticipated towards water quality, water flows and the WFD status of orthophosphate.
	Beneficial					++		++	0	+			++	0				++			Moderate beneficial effects are anticipated towards population and human health, water, and air and climate due to the maintenance of essential public water supplies during times of drought and the improving adaptation to climate change. A minor beneficial effect is anticipated towards material assets and resource use due to this action's ability to enhance the efficiency of water resource management.
River Trent (Hall WTW)	Adverse	0	0	0	0				0		0	0	0		0	0	0				Due to the absence of construction works and negligible hydrological impact, no significant adverse effects are anticipated.
	Beneficial					+++		+++	0	+			+++	0				+++			Major beneficial effects associated with the maintenance of essential public water supplies during times of drought, and improved resilience to drought effects. Minor beneficial effects are anticipated towards material assets and resource use relating to the efficient use of land.

5.4 STANDARD SUPPLY ACTIONS

A visual summary of SEA conclusions for each of the standard supply actions in Anglian Water's DP27 is provided in **Table 5-3**, with the extreme supply actions covered in **Section 5.5**. The completed appraisal tables for each of the drought actions are provided in **Appendix D**.

Most standard supply actions have a low adverse impact profile, with effects that are generally negligible or minor and largely temporary in nature. These actions rely on existing abstraction licences or established infrastructure, meaning they avoid the need for construction of extensive new infrastructure and therefore minimise environmental disturbance. Where adverse effects do occur, they are typically limited to short-term emissions from vehicle movements, minor construction activities or temporary operational adjustments.

These drought actions provide important benefits for drought resilience. Alternative abstraction sources and river support actions offer minor but significant benefits for ecological receptors, recreation and community wellbeing by helping to maintain flows during hydrological stress. Internal and external transfers also contribute positively by improving flows in receiving catchments and supporting the continuity of supply for communities and businesses.

Loss reduction and supply system optimisation actions deliver more substantial benefits. Loss reduction provides moderate improvements in system efficiency by ensuring that a greater proportion of treated water reaches customers, reducing pressure on surface and groundwater bodies and supporting sustainable abstraction. Supply system optimisation and conjunctive use offer consistently moderate beneficial effects, enhancing operational flexibility, improving drought resilience and supporting long-term climate adaptation. These drought actions also generate secondary benefits for biodiversity, recreation and community wellbeing through improved supply reliability and coordinated resource use.

Some supply actions, such as source commissioning, maintenance and rehabilitation, and tankering, may give rise to minor adverse effects where construction or vehicle movements are required. These effects are temporary and manageable through good practice. The benefits, while generally minor, are important in maintaining supply resilience and alleviating pressure on local water resources during drought conditions.

Overall, the assessment demonstrates that standard supply actions provide a set of tools for managing drought, with adverse effects that are limited in scale and duration and benefits that support system resilience, resource efficiency and environmental protection.

Table 5-3: Visual Evaluation Matrix Summary for Standard Supply Actions

Action		SEA Topics and Objectives																			Commentary
		Biodiversity				Population & Human Health			Material Assets & Resource Use		Water				Soils, Geology & Land Use	Air & Climate			Archaeology & Cultural Heritage	Landscape	
		1.1	1.2	1.3	1.4	2.1	2.2	2.3	3.1	3.2	4.1	4.2	4.3	4.4	5.1	6.1	6.2	6.3	7.1	8.1	
Alternative River Abstraction Sources	Adverse	0		0	0				0	0	0	0				0	0		0	0	Adverse effects are negligible, reflecting the absence of construction and the use of existing abstraction licences.
	Beneficial	+	+		+	+	+	+	+	+		+	+	+				+			Beneficial effects are generally minor, where the action enhances drought resilience and operational flexibility. There are also indirect benefits to ecology, recreation, and climate adaptation. No major or moderate beneficial effects are recorded, but the overall profile supports strategic resource optimisation during hydrological stress.
Internal and External Transfers	Adverse	0	0	0	0	0	0	0	0		0	0	0		0	-	-		0	0	Minor adverse effects are anticipated on air and climate associated with the increased emissions and energy requirements for operating water transfers. Other adverse effects are assessed as negligible.
	Beneficial	0	0		+	+	0	+	+	+		+	0	0	0			0			Minor beneficial effects on biodiversity, flora, fauna, and water are expected due to improved flows in recipient catchments. Additionally, minor beneficial effects on population and human health may result from maintaining water supply during drought conditions, supporting human well-being and a thriving economy. By utilising existing licensed sources and infrastructure, the action promotes resource efficiency. All other beneficial effects are assessed as negligible.
Loss Reduction	Adverse					0	0		0		0					-	0				Minor adverse effects have been identified in relation to emissions to air resulting from vehicle movements during the construction phase. All other identified adverse effects are considered negligible.
	Beneficial	+	+		+	+		+	0	+	0	+	+	++			+	+	0	0	Moderate beneficial effects are associated with the promotion of efficiency of the water supply system by ensuring more of the treated water reaches customers. Minor beneficial effects include a reduced need for additional water abstraction, helping to secure essential water supplies for customers and businesses. This reduction also supports the maintenance of surface water and groundwater levels and flows, promotes the sustainable management of abstractions, and contributes to long-term improvements in water efficiency and the resilience of supplies during drought conditions.
River Augmentation and Support	Adverse	0	0	0	0						0				0		0		0	0	Adverse effects are predominantly negligible, reflecting the temporary nature of the action and its limited physical footprint. No minor, moderate or major adverse effects are expected, and all impacts are likely to be effectively managed through good practice construction and operational methods.
	Beneficial	+	+		+	+	+	+	+	+	0	+	+	+				+			Beneficial effects are minor, particularly where flow support offers indirect gains for ecology, recreation, and community wellbeing. Minor beneficial effects are also identified for water resources, abstraction, and efficiency, where the action contributes directly to drought resilience and strategic water management. No moderate or major beneficial effects are recorded.
Source Commissioning, Maintenance and Rehabilitation	Adverse	-	-	0	0	0	0	0	0		0	0	0		0	0	0		0	0	Minor adverse effects are anticipated towards biodiversity, flora and fauna due to potential construction activities associated with this action. As the specific locations of these activities are currently unknown, a precautionary approach has been adopted in the assessment. All other adverse effects are assessed as negligible.
	Beneficial					+		+	+	0			+	0	0			0			Minor beneficial effects on population and human health are anticipated as this action supports the maintenance of a resilient water supply during drought conditions, benefiting both customers and economic activity. By utilising existing licensed sources and infrastructure and ensuring appropriate and sustainable management of abstractions, the action promotes resource efficiency. All other beneficial effects are assessed as negligible.

Action		SEA Topics and Objectives																			Commentary
		Biodiversity				Population & Human Health			Material Assets & Resource Use		Water				Soils, Geology & Land Use	Air & Climate			Archaeology & Cultural Heritage	Landscape	
		1.1	1.2	1.3	1.4	2.1	2.2	2.3	3.1	3.2	4.1	4.2	4.3	4.4	5.1	6.1	6.2	6.3	7.1	8.1	
Supply System Optimisation and Conjunctive Use	Adverse	-	-	-	0	-	-	0	0		0				-	-	0		-	-	Adverse effects are mostly minor, particularly for biodiversity, health, recreation, and physical environment topics such as soils, air quality, and landscape, where minor construction works may cause temporary disturbance. Negligible effects are recorded for communities, resources, water quality, and climate mitigation, reflecting low magnitude and limited sensitivity. No moderate or major adverse effects are expected, and all impacts are considered manageable with good practice.
	Beneficial	++	++		++	++	++	++	++	++	++	++	++	++				++			Beneficial effects are consistently rated moderate, especially for water resources, abstraction, efficiency, and climate adaptation, where the action enhances system resilience and operational flexibility. Additional benefits are expected for biodiversity, health, recreation, and community wellbeing, through improved supply reliability and coordinated resource use. No major beneficial effects are recorded, but the overall profile supports strategic drought response and long-term adaptation.
Tankering	Adverse	0	0	0	0	-	-	-	0		0	0	0		0	-	-		-	-	Minor adverse effects are expected to population and human health, air and climate, archaeology and cultural heritage and on landscape and visual amenity linked to disruptions from the operation of tanker vehicles. Negligible effects are anticipated from the potential construction activities if required. As specific locations are currently unknown, a precautionary approach has been taken in the assessment.
	Beneficial	0	0		0	+		+	0	0		+	0	0				0	0	0	Minor beneficial effects on population and human health are expected due to improved resilience of the public water supply, and on water due to the alleviation of pressure on local water resources. The action supports resource efficiency by utilising the nearest existing licensed sources. All other benefits are negligible.

5.5 EXTREME ACTIONS

Anglian Water has also identified a suite of extreme drought actions intended to avoid the need for the most severe customer restrictions. These include extreme demand and extreme supply actions.

5.5.1 Extreme demand actions

A visual summary of SEA conclusions for each of the extreme demand-side actions in Anglian Water's DP27 is provided in **Table 5-4**. The completed appraisal tables for each of the drought actions are provided in **Appendix D**.

Extreme communications plan and enhanced water efficiency and customer metering, generate only minor adverse effects. These are largely limited to temporary reductions in recreational water use or behavioural impacts associated with heightened drought messaging. Because these drought actions rely on communication, behavioural change and improved customer visibility of water use, they avoid construction impacts and deliver meaningful benefits. These include sustained reductions in demand, improved water quantity and quality, long-term efficiency gains and enhanced resilience to climate-driven drought.

Tariffs, extreme pressure management and extreme targeted leakage reduction at an escalated level introduce moderate adverse effects, particularly for vulnerable households and water-dependent businesses. These impacts arise from increased operational costs. Environmental effects remain minor, largely associated with operational adjustments. For extreme pressure management and extreme targeted leakage reduction, there are short-term vehicle movements associated with upfront works. Despite these drawbacks, extreme demand actions deliver important benefits by reducing demand, supporting sustainable abstraction, maintaining flows and improving the resilience of water supplies during severe drought conditions.

The most restrictive action, removal of exceptions, has the greatest potential for adverse effects. Tightening restrictions to remove previously permitted uses can lead to major adverse effects on recreation, horticulture, landscaping and other water-dependent businesses. Moderate adverse effects on community wellbeing and standards of living are also anticipated, alongside minor ecological effects where reduced watering affects green spaces. Nevertheless, the drought action provides important benefits in an extreme drought, helping to reduce demand, protect essential supplies and safeguard natural resources and ecosystem services when conditions are most severe.

Overall, the assessment demonstrates that extreme demand actions deliver environmental benefits with limited adverse effects. However, more restrictive actions, such as tariffs and removal of exceptions, carry increasing social and economic costs but remain essential safeguards in the most severe drought conditions.

Table 5-4: Visual Evaluation Matrix Summary for Extreme Demand Actions

Action		SEA Topics and Objectives																			Commentary
		Biodiversity				Population & Human Health			Material Assets & Resource Use		Water				Soils, Geology & Land Use	Air & Climate			Archaeology & Cultural Heritage	Landscape	
		1.1	1.2	1.3	1.4	2.1	2.2	2.3	3.1	3.2	4.1	4.2	4.3	4.4	5.1	6.1	6.2	6.3	7.1	8.1	
Extreme Communications Plan	Adverse						-														No significant adverse effects have been identified for this drought action. Minor adverse effects are anticipated towards formal and informal recreation as all recreational water use is likely to be discouraged.
	Beneficial	+	+		+	+		+	+	+	+	+	+	+			0	+	0	0	Minor beneficial effects include reducing demand for water and securing essential supplies of water for customers/businesses, increasing public awareness, and helping maintain natural flows and ecosystem resilience. Reducing the demand for water will also have minor beneficial effects on maintaining surface water and groundwater levels/flows, sustainable management of abstraction and enabling long term improvements in water efficiency. Reducing water demand will also help to improve the climate resilience of water supplies to drought.
Extreme Water Efficiency & Customer Metering	Adverse					0			0												As there is no construction associated with this action, and efforts focus on encouraging sustainable water use through communications, no significant adverse effects are anticipated.
	Beneficial	+	+		+	+	0	+	0	++	+	+	+	++		0	0	+	0	0	Moderate to minor beneficial effects have been identified with respect to sustainable provision of water through water savings brought about by real-time customer visibility of water consumption and through leakage reduction. Reduction in demand will have beneficial effects on water quantity, water quality, improving adaptation to climate change, and associated ecosystems as well as resultant energy savings. These effects are generally considered to be long term and permanent in nature.
Tariffs	Adverse					--	--	--		-											Tariffs could lead to moderate adverse effects on recreation, tourism assets, and local amenities and economic impacts on businesses, primarily due to increased operational costs associated with higher water charges. Moderate adverse effects are also expected for vulnerable populations, who may face limited ability to absorb the increased costs associated with higher water charges. Minor effects on resource use to ensure water supply for homes and industry are also anticipated.
	Beneficial	+	+		+	+			+	+	+	+	+	+		0	0	+	0	0	Minor beneficial effects include reducing demand for water and securing essential supplies of water for customers/businesses. Reducing the demand for water will also have minor beneficial effects on maintaining surface water and groundwater levels/flows resulting in beneficial effects on biodiversity, flora and fauna, sustainable management of abstraction and enabling long term improvements in water efficiency. Reducing water demand will also help to improve the resilience of water supplies to drought.
Extreme Pressure Management	Adverse	-	-	0		0	0	--	-	0					0	-	-		0	0	Moderate adverse effects have been identified for population and human health relating to effects on water dependent businesses and potential for exacerbating inequality. Minor adverse effects have been identified in relation to potential effects on biodiversity, flora and fauna as well as waste generation and emissions to air (including air pollutants and greenhouse gases) resulting from vehicle movements during the construction phase. All other identified adverse effects are considered negligible.

Action		SEA Topics and Objectives																			Commentary
		Biodiversity				Population & Human Health			Material Assets & Resource Use		Water				Soils, Geology & Land Use	Air & Climate			Archaeology & Cultural Heritage	Landscape	
		1.1	1.2	1.3	1.4	2.1	2.2	2.3	3.1	3.2	4.1	4.2	4.3	4.4	5.1	6.1	6.2	6.3	7.1	8.1	
	Beneficial	+	+		++	+		+	0	+	+	+	+	+			+	+	0	0	Moderate beneficial effects include maintaining natural flow levels, preventing further ecological degradation, and supporting the resilience of habitats and species. Reducing the demand for water will also have minor beneficial effects on securing essential supplies of water for customers/businesses, maintaining surface water and groundwater levels/flows, sustainable management of abstractions and enabling long term improvements in water efficiency and secondary benefits for biodiversity, ecosystems, and the wider natural environment. Reducing water demand will also help to improve the resilience of water supplies to drought.
Extreme Targeted Leakage Reduction	Adverse	0	0	0		--	0		0		0				0	-	-		0	0	Moderate adverse effects identified are associated with the potential increase in cost due to the increase in resources needed to ramp up efforts, which could worsen inequality impacts if passed onto the customer. Minor adverse effects identified are associated with air pollutants and greenhouse gas emissions as a result of construction activities and vehicle movements. Other adverse effects identified are negligible.
	Beneficial	+	+		+	+	+	+	+	++	0	+	+	+			+	+		0	Moderate to minor beneficial effects have been identified with respect to sustainable provision of water through water savings that would have otherwise been lost to leakage after having been abstracted at source, and associated system resilience. These effects are generally considered to be long term and permanent in nature. Other benefits are associated with reduced need for abstraction, pumping and treatment, and associated energy use and operational emissions savings.
Removal of Exceptions	Adverse	-				--	---	---											0	0	A moderate adverse effect has been identified in relation to the tightening of restrictions which may further reduce personal or community activities and may have a short-term effect on the standard of living. Major adverse effects have been identified for recreational use and for promoting a sustainable economy due to the effect of the ban on some businesses (e.g. landscaping/horticulture) that rely on domestic water-using appliances/uses (e.g. sprinklers/hosepipes). Minor adverse effects have been identified for biodiversity, flora and fauna due to the effect on green spaces where exceptions would no longer apply.
	Beneficial	++	++		++	++	+	++	+	+	+	+	++	++				++	0	0	Moderate beneficial effects include reducing the demand for water, promoting sustainable water use, and securing supply of water as well as protecting natural resources and ecosystem services. Reducing the demand for water will also have minor beneficial effects on maintaining surface water and groundwater levels/flows, and sustainable management of abstractions. Reducing water demand will also help to improve the resilience of water supplies to drought.

5.5.2 Extreme supply actions

A visual summary of SEA conclusions for each of the extreme supply actions in Anglian Water's DP27 is provided in **Table 5-5**. The completed appraisal tables for each of the drought actions are provided in **Appendix D**.

Groundwater actions such as lowering or upsizing borehole pumps (Groundwater 01) and increasing borehole depth (Groundwater 02) have low environmental risk due to the minor scale works expected and the operation within the limits of existing abstraction licences designed to protect environmental thresholds. These actions provide minor to negligible beneficial effects by enhancing operational flexibility, supporting community wellbeing and contributing to climate adaptation, due to their modest additional supply benefit.

Where more substantial interventions are required, such as the development of satellite boreholes (Groundwater 03) or the recommissioning of out-of-service sources (Groundwater 04), minor adverse effects may arise from construction disturbance, temporary impacts on biodiversity, soils, air quality, heritage and landscape. These effects remain manageable through standard good practice.

Satellite boreholes deliver major beneficial effects due to their substantial volumetric contribution, supporting population and human health, maintaining supplies during extreme drought and strengthening climate resilience. Recommissioning existing sources provides moderate benefits by improving supply reliability, supporting essential public water provision and enhancing adaptation to climate change. During operation, both actions could lead to localised changes in water levels or quality.

Other groundwater actions, including the use of third-party boreholes (Groundwater 05) and repurposing river-support boreholes (Groundwater 06), similarly present minor adverse effects associated with construction, drawdown and potential water-quality changes. Reduced river flows may also affect aquatic ecology where river-support boreholes are repurposed. Their beneficial effects are generally minor but important, contributing to supply continuity, resource efficiency and climate adaptation during severe drought conditions.

Drought Permits and Orders have minor adverse effects associated with reduced river flows, potential ecological impacts, implications for WFD compliance, temporary construction works and effects on recreation and wellbeing. Despite these drawbacks, they provide moderate beneficial effects by ensuring the continued supply of safe drinking water during severe drought and supporting climate adaptation through the strategic use of existing infrastructure.

River support actions introduce minor adverse effects linked to construction disturbance, temporary impacts on biodiversity and water quality, and greenhouse gas emissions. Differences between groundwater sources and the receiving river water may also create water-quality challenges for sensitive receptors. These impacts remain small in scale and duration. Benefits are minor, reflecting the limited additional supply benefit, but these actions support population and human health, natural resources and climate resilience.

Temporary treatment actions, UV disinfection, nitrate removal or blending, and iron/turbidity removal, have a low adverse impact profile. Their effects are limited to negligible, short-term construction disturbance, small-scale groundworks and slight increases in operational energy use, all confined within existing water treatment works boundaries. Their benefits, however, are substantial. UV disinfection delivers major beneficial effects by strengthening treatment resilience and safeguarding public health and climate adaptation. Nitrate removal/blending and iron/turbidity removal provide moderate benefits by maintaining safe, reliable drinking water supplies without increasing abstraction pressure, supporting community wellbeing and economic stability during extreme drought.

Water recycling actions, both advanced water recycling and water re-use, present only minor adverse effects, largely associated with temporary construction disturbance, potential changes to flow regimes and water quality, and risks relating to INNS spread. Despite these manageable impacts, both actions deliver significant benefits. Advanced water recycling provides a major beneficial effect for material assets and resource use by recovering water that would otherwise be discharged, while also offering moderate benefits for public health, climate adaptation and efficient water resource management. Water re-use similarly delivers major benefits for resource efficiency and moderate benefits through reduced pressure on natural sources, improved sustainability of abstraction and enhanced resilience during severe drought.

More infrastructure-intensive actions, such as overland pipes, introduce moderate adverse effects due to potential direct and indirect impacts on designated sites and a range of minor construction-related effects

including noise, dust, waste generation, landscape disturbance and temporary impacts on recreation. However, these actions also provide major beneficial effects by delivering water to at-risk areas, supporting human health, climate resilience, economic stability and community wellbeing. Minor benefits may also arise from opportunities for localised environmental enhancements and reduced pressure on stressed catchments.

Tankering presents minor adverse effects relating to vehicle movements, temporary disruption, air quality, cultural heritage and landscape, with uncertainty around the scale and location of implementation, requiring a precautionary approach. There are major beneficial effects for population and human health from the significant additional supply benefit, alongside major benefits for climate adaptation. Moderate benefits are also associated with more efficient resource use and maintaining supply for homes and industry, with minor benefits linked to reduced pressure on local water resources.

Actions involving the utilisation of other significant water bodies and the deployment of supply schemes introduce a broader range of environmental risks. Both actions are associated with moderate adverse effects on biodiversity, natural resources, WFD objectives, air quality, greenhouse gases and INNS spread, driven by moderate-to-major construction requirements and rapid deployment. Additional minor adverse effects arise across health, recreation, soils, water quality, heritage and landscape due to temporary disturbance and material use. Despite these impacts, both actions deliver significant beneficial effects for population and human health, the economy, sustainable abstraction and climate adaptation, reflecting their strong contribution to drought resilience and network reliability. Moderate benefits for material assets and resource use, and minor benefits for ecosystem function and long-term water management, further strengthen their overall profile.

Resource trading and transfers also carry moderate adverse effects, particularly relating to the spread of INNS and ecological disturbance from construction. Minor adverse effects may arise from changes to flow regimes, water quality and construction-related emissions. However, there are major beneficial effects for population and human health, water and climate adaptation, linked to securing safe drinking water supplies during severe drought. Moderate benefits arise from improved water resource management and efficiency, with minor benefits linked to reduced pressure on stressed sources and the use of existing infrastructure.

Loss reduction generates minor adverse effects from construction disturbance, emissions and temporary impacts on biodiversity, soils, heritage and landscape. Its benefits, however, remain significant: moderate improvements in system efficiency reduce the need for additional abstraction, support essential supplies and contribute to long-term water efficiency and drought resilience.

Overall, the assessment demonstrates that extreme supply actions span a wide spectrum of environmental effects. While construction-heavy drought actions carry moderate adverse effects, these are generally temporary with effects mitigated through standard good practice. The most substantial benefits arise from actions that deliver significant additional supply benefit, enhance treatment resilience or strengthen network flexibility.

Table 5-5: Visual Evaluation Matrix Summary for Extreme Supply Actions

Action		SEA Topics and Objectives																			Commentary
		Biodiversity				Population & Human Health			Material Assets & Resource Use		Water				Soils, Geology & Land Use	Air & Climate			Archaeology & Cultural Heritage	Landscape	
		1.1	1.2	1.3	1.4	2.1	2.2	2.3	3.1	3.2	4.1	4.2	4.3	4.4	5.1	6.1	6.2	6.3	7.1	8.1	
Groundwater - 01 - Lower borehole pumps or increase size of borehole pump	Adverse	0	0	0	0	0	0		0		0	0	0		0	0	0		0	0	Adverse effects are mostly negligible due to the minor scale of works expected and the operation within the limits of existing abstraction licences. No minor, moderate or major adverse effects are expected, and all impacts are considered manageable with good practice.
	Beneficial					+		+	+	+			+	0				+			Beneficial effects are rated minor, especially for health, and community wellbeing, resource utilisation and climate adaptation. No moderate or major beneficial effects are recorded, but the overall profile supports strategic drought response.
Groundwater - 02 - Increase borehole depth	Adverse	0	0	0	0	0	0		0		0	0	0		0	0	0		0	0	Adverse effects are mostly negligible. Operation may lead to drawdown and impacts to water quality and turbidity; however, abstractions will be within the limits of existing licences, which are designed to protect environmental thresholds. No minor, moderate or major adverse effects are expected, and all impacts are considered manageable with good practice.
	Beneficial					0		0	+	0				0				0			Beneficial effects are rated minor for resource utilisation and climate adaptation. No moderate or major beneficial effects are recorded, but the overall profile supports strategic drought response.
Groundwater - 03 - Satellite boreholes	Adverse	-	-	0	-	-	-		-		0	0	-		-	-	-		-	-	Adverse effects are predominantly minor, particularly for biodiversity, health, resources, and physical environment topics such as soils, air quality, heritage, and landscape, where construction activities may cause temporary disturbance. No moderate or major adverse effects are anticipated, and all impacts are considered manageable through the application of good practice.
	Beneficial		+			+++		+++	+	+	+	+	+++	+++				+++			Beneficial effects are assessed as major, particularly for population and human health, due to the action's substantial volumetric benefit and its strong contribution to health, wellbeing, and resilient communities and economies. Major beneficial effects are also anticipated for water, as the action maintains supplies while distributing abstraction across multiple locations and supporting more sustainable water use. Major benefits for climate are identified through improved adaptation to climate change. Minor beneficial effects are also expected for biodiversity, natural resources, and water resources.
Groundwater - 04 - Recommissioning or Commissioning out-of-service boreholes	Adverse	-	0	0	-	-	0		-		-	-	-		0	0	-		0	0	Adverse effects are mostly minor, particularly for biodiversity, health and well-being, resources, water, and climate, where construction works may cause temporary disturbance and use of materials. Operation may lead to drawdown and impacts to water quality and turbidity. No moderate or major adverse effects are expected, and all impacts are considered manageable with good practice.
	Beneficial	+	+		+	++	+	++	+	++	+	+	+	0				++			Beneficial effects are assessed as moderate, particularly for population and human health due to the action's moderate volumetric benefit. Moderate beneficial effects are also associated with supporting the maintenance of essential public water and improving adaptation to climate change. Minor benefits are identified for biodiversity, recreation, natural resources and water resources.
Groundwater - 05 - Use of 3rd party boreholes	Adverse	-	0	0	-	0	0		-		0	0	-		0	0	-		0	0	Adverse effects are minor, particularly for biodiversity, the economy, resource utilisation, water, and climate, where pipework construction works may cause temporary disturbance, and use of materials. Operation may lead to drawdown and impacts to water quality and turbidity. No moderate or major adverse effects are expected, and all impacts are considered manageable with good practice.

Action		SEA Topics and Objectives																			Commentary
		Biodiversity				Population & Human Health			Material Assets & Resource Use		Water				Soils, Geology & Land Use	Air & Climate			Archaeology & Cultural Heritage	Landscape	
		1.1	1.2	1.3	1.4	2.1	2.2	2.3	3.1	3.2	4.1	4.2	4.3	4.4	5.1	6.1	6.2	6.3	7.1	8.1	
	Beneficial		+			+		+	+	+	+	+	+	0				+			Beneficial effects are assessed as minor, particularly for population and human health due to the action's minor volumetric benefit. Minor benefits are also identified for biodiversity, recreation, natural resources, water resources, and climate adaptation.
Groundwater - 06 - Repurpose river support boreholes	Adverse	-	-	0	-	0	-		-		-	-	-		0	0	-		0	0	Adverse effects are generally minor, particularly for biodiversity, recreation, resource use, water, and climate. Construction works may cause temporary disturbance and require materials. During operation, drawdown may occur, along with potential impacts on water quality and turbidity. Reduced river flows could affect river water quality and aquatic ecology. No moderate or major adverse effects are anticipated, and all impacts are considered manageable with good practice.
	Beneficial					+		+	+	+	+	+	+	0				+			Beneficial effects are assessed as minor, particularly for population and human health due to the action's minor volumetric benefit. Minor benefits are identified for natural resources, water, and climate adaptation.
River Support	Adverse	-	-	0	-				0		-	-	-		0	0	-		0	0	Adverse effects are mostly minor, particularly for biodiversity, water, and air and climate (greenhouse gas emissions), where construction works may cause temporary disturbance and use of materials. Operation may lead to drawdown and impacts to water quality and turbidity. Differences between groundwater and river water may also create water-quality issues and sensitive receptors. No moderate or major adverse effects are expected, and all impacts are considered manageable with good practice.
	Beneficial	0	+			+	0	+	+	+		0		0				+			Beneficial effects are assessed as minor, particularly for population and human health due to the action's minor volumetric benefit. Minor benefits on natural resources, resource use, and climate adaptation.
Drought Permit and Orders	Adverse	-	-	0	-	-	-		-		-	-	-		-	-	-		0	0	Minor adverse effects are associated with the impact of reduced river flows on ecological receptors, WFD compliance objectives, recreation and water quality. Minor construction works may also impact ecological receptors, wellbeing, air quality, and soil, geology and land use.
	Beneficial					++		++	+	+			++	+				++			Moderate beneficial effects are anticipated towards population and human health, water, and air and climate, associated with ensuring a continued supply of safe drinking water during a severe drought and improving climate adaptation. Minor beneficial effects are associated with sustainably managing water resources and the utilisation of existing infrastructure where possible.
Temporary Treatment- 01 - UV disinfection	Adverse	0	0		0		0		0		0		0		0	0	0				Adverse effects are limited to negligible effects associated with temporary installation works, small-scale ground disturbance, construction emissions, and a slight increase in operational energy use. All effects are short-term, reversible, and confined to existing WTW boundaries, with minimal interaction with sensitive receptors or environmental pathways.
	Beneficial					+++		+++		+			++	0				+++			Beneficial effects are major for population and human health, water and climate, relating primarily to improved treatment resilience and the maintenance of safe, reliable drinking water supplies during extreme drought. The action supports public health, community and economic stability, and efficient use of existing water resources by addressing treatment constraints without increasing abstraction pressure and is an adaptive climate change action.
Temporary Treatment- 02 Nitrate removal and/or blending	Adverse	0	0		0		0		0		0		0		0	0	0				Adverse effects are limited to negligible effects associated with temporary installation works, small-scale ground disturbance, construction emissions, and a slight increase in operational energy use. All effects are short-term, reversible, and confined to existing WTW boundaries, with minimal interaction with sensitive receptors or environmental pathways.

Action		SEA Topics and Objectives																			Commentary
		Biodiversity				Population & Human Health			Material Assets & Resource Use		Water				Soils, Geology & Land Use	Air & Climate			Archaeology & Cultural Heritage	Landscape	
		1.1	1.2	1.3	1.4	2.1	2.2	2.3	3.1	3.2	4.1	4.2	4.3	4.4	5.1	6.1	6.2	6.3	7.1	8.1	
	Beneficial					++		++		+			++	0				++			Beneficial effects are moderate for population and human health, water and climate, relating primarily to improved treatment resilience and the maintenance of safe, reliable drinking water supplies during extreme drought. The action supports public health, community and economic stability, and efficient use of existing water resources by addressing treatment constraints without increasing abstraction pressure.
Temporary Treatment- 03 - Iron/ turbidity removal	Adverse	0	0		0		0		0		0		0		0	0	0				Adverse effects are limited to negligible effects associated with temporary installation works, small-scale ground disturbance, construction emissions, and a slight increase in operational energy use. All effects are short-term, reversible, and confined to existing WTW boundaries, with minimal interaction with sensitive receptors or environmental pathways.
	Beneficial					++		++		+			++	0				++			Beneficial effects are moderate for population and human health, water and climate, relating primarily to improved treatment resilience and the maintenance of safe, reliable drinking water supplies during extreme drought. The action supports public health, community and economic stability, and efficient use of existing water resources by addressing treatment constraints without increasing abstraction pressure.
Water Recycling - Advanced Water Recycling	Adverse	-	-	-	-	-	0	-	-		-	-	-		-	-	-		0	0	Minor adverse effects are associated with altering the flow regime and altering water quality. Construction works may also have minor adverse effects on spread of INNS, ecological receptors, wellbeing, air quality, the generation of waste, and disturbing soils.
	Beneficial	+	+		+	++	0	++	+++	++	+	+	++	+				++			One major beneficial effect is anticipated towards material assets and resource relating to this actions ability to utilise water which would otherwise have been discharged, thus supporting waste minimisation and efficient resource use. Moderate beneficial effects are anticipated towards population and human health, and air and climate, associated with ensuring a continued supply of safe drinking water during a severe drought and improving climate adaptation. Moderate beneficial effects are also anticipated towards material assets and resource use as well as water, associated with enhancing the efficiency of water resource management. Minor beneficial effects are associated with reducing pressure on stressed sources and protecting river flows and water quality at certain points.
Water Recycling - Water re-use	Adverse	-	-	-	-	-	0	-	-		-	-	-		-	-	-		0	0	Minor adverse effects are associated with altering the flow regime and altering water quality. Construction works may also have minor adverse effects on spread of INNS, ecological receptors, wellbeing, air quality, the generation of waste, and disturbing soils.
	Beneficial	+	+		+	+	0	+	+++	++	+	+	+	+				+			One major beneficial effect is anticipated towards material assets and resources relating to this action's ability to utilise water which would otherwise have been discharged, thus supporting waste minimisation and efficient resource use. Moderate beneficial effects are associated with reducing pressure on natural sources and contributing to more sustainable use of resources. Minor beneficial effects are anticipated towards population and human health, water, and air and climate, associated with ensuring continuity of supply for other water users during a severe drought and improving climate adaptation. Minor beneficial effects are also associated with reducing pressure on stressed sources and protecting river flows and water quality at certain points.

Action		SEA Topics and Objectives																			Commentary
		Biodiversity				Population & Human Health			Material Assets & Resource Use		Water				Soils, Geology & Land Use	Air & Climate			Archaeology & Cultural Heritage	Landscape	
		1.1	1.2	1.3	1.4	2.1	2.2	2.3	3.1	3.2	4.1	4.2	4.3	4.4	5.1	6.1	6.2	6.3	7.1	8.1	
Overland pipes	Adverse	-	-	0	-	-	-	-	-	-	-	0	-	-	-	-	-	-	-	-	Moderate adverse effects are associated with the potential direct and indirect effects on designated sites. Minor effects are associated with construction-related waste, runoff, noise, dust and vibration, impact on recreational sites/amenities, energy requirements, potential impact on geological sites and agricultural land in rural areas, and potential impact on heritage sites and landscapes.
	Beneficial	-	+	-	+	+++	+	+++	-	++	-	-	+++	+++	-	-	-	+++	-	-	Major beneficial effects are anticipated as the action provides much-needed water in several "at-risk" areas, which in turn supports human health, building climate change resilience, economic stability, and community well-being. Minor beneficial effects are anticipated in relation to opportunities for minor enhancements on sites, such as habitat reinstatement or localised improvements to landscape or access and alleviation pressure in water stressed areas.
Tankering	Adverse	0	0	-	0	-	0	-	0	-	0	0	0	-	0	-	-	-	-	-	Minor adverse effects are expected for population and human health, air and climate, archaeology and cultural heritage and on landscape and visual amenity linked to disruptions from the operation of tanker vehicles. As specific locations are currently unknown, a precautionary approach has been taken in the assessment.
	Beneficial	0	0	-	0	+++	0	+++	+	++	-	+	0	0	-	-	-	+++	-	-	Major beneficial effects on population and human health are expected due to improved resilience of the public water supply from the action's major volumetric benefit. Major beneficial effects are also associated with air and climate relating to improving adaptation to climate change. Moderate beneficial effects are expected towards material assets and resource use due to this action's ability to promote more efficient management of water and ensure supply for homes and industry is maintained. Minor benefits are expected from the action's support of resource efficiency by utilising the nearest existing sources and alleviating pressure on local water resources.
Utilising other significant water bodies	Adverse	--	--	--	--	-	-	-	--	-	-	-	-	-	-	-	-	-	-	-	Moderate adverse effects are anticipated towards biodiversity, natural resources, WFD objectives and INNS spread, primarily driven by moderate to major construction. Additional minor adverse effects arise for health and amenity, recreation, soils and geodiversity, air quality, greenhouse gases, water quality, water levels/flows, sustainable water use, heritage and landscape, mostly reflecting temporary construction disturbance and material use.
	Beneficial	+	+	-	+	++	0	++	-	++	+	+	++	+	-	-	-	++	-	-	Moderate beneficial effects are anticipated for population and human health, the economy, sustainable abstraction and climate adaptation, reflecting strengthened drought resilience and reliable supply. Moderate beneficial effects are also identified for material assets and resource use through enhanced network reliability. Additional minor beneficial effects include reduced pressure on overstressed catchments, improved long-term water management and support for ecosystem function and natural resource protection.
Supply schemes	Adverse	--	--	--	--	-	-	-	--	-	-	-	-	-	-	--	--	-	-	-	Moderate adverse effects are anticipated towards biodiversity, natural resources, air quality, greenhouse gases, WFD objectives and INNS spread, primarily driven by moderate–major construction and rapid deployment. Additional minor adverse effects arise for health and amenity, recreation, soils and geodiversity, water quality, water levels/flows, sustainable water use, heritage and landscape, mostly reflecting temporary construction disturbance and material use.

Action		SEA Topics and Objectives																			Commentary
		Biodiversity				Population & Human Health			Material Assets & Resource Use		Water				Soils, Geology & Land Use	Air & Climate			Archaeology & Cultural Heritage	Landscape	
		1.1	1.2	1.3	1.4	2.1	2.2	2.3	3.1	3.2	4.1	4.2	4.3	4.4	5.1	6.1	6.2	6.3	7.1	8.1	
	Beneficial	+	+		+	+++	0	+++		++	+	+	+++	+				+++			Major beneficial effects are anticipated for population and human health, the economy, sustainable abstraction and climate adaptation, reflecting strengthened drought resilience and reliable supply. A moderate beneficial effect is identified for material assets and resource use through enhanced network reliability. Additional minor beneficial effects include reduced pressure on overstressed catchments, improved long-term water management and support for ecosystem function and natural resource protection.
Resource trading and transfers	Adverse	--	--	--	-	-	-	-	-		-	-	-		--	-	-		-	-	Moderate adverse effects are anticipated towards the spread of INNS as water transfers between catchments can heighten this risk. Moderate adverse effects are also anticipated towards ecological receptors and disturbing soils due to the moderate level of construction. Minor adverse effects are associated with altering the flow regime and altering water quality. Construction works may also have minor adverse effects on wellbeing, air quality, and the generation of waste.
	Beneficial	+	+		+	+++	+	+++	+	++	+	+	+++	++				+++			Major beneficial effects are anticipated towards population and human health, water, and air and climate, associated with ensuring a continued supply of safe drinking water during a severe drought and improving climate adaptation. Moderate beneficial effects are associated with enhancing the efficiency of water resource management and promoting water efficiency. Minor beneficial effects are associated with reducing pressure on stressed sources, using existing infrastructure and protecting river flows and water quality.
Loss Reduction	Adverse	-	-	0	-	-	0	-	0		-				-	-	0		-	-	Minor adverse effects have been identified in relation to emissions to air resulting from vehicle movements during the construction phase. Minor adverse effects are also anticipated towards biodiversity, flora and fauna, population and human health, water, soils, archaeology and cultural heritage, and landscapes and visual amenity, resulting from the minor level of construction disturbance.
	Beneficial	+	+		+	+		+	0	+	0	+	+	++			+	+			Moderate beneficial effects are associated with the promotion of efficiency of the water supply system by ensuring more of the treated water reaches customers. Minor beneficial effects include a reduced need for additional water abstraction, helping to secure essential water supplies for customers and businesses. This reduction also supports the maintenance of surface water and groundwater levels and flows, promotes the sustainable management of abstractions, and contributes to long-term improvements in water efficiency and the resilience of supplies during drought conditions.

5.6 HABITATS REGULATIONS ASSESSMENT

Anglian Water has undertaken Stage 1 HRA Screening for the drought permit actions in parallel with the SEA which is reported separately in the HRA Screening Report. HRA screening establishes whether the drought permit actions have the potential for a Likely Significant Effect (LSE) on the integrity of a designated site.

The screening concluded that significant effects are either likely or uncertain for the following sites as listed in **Table 5-6** (note, this includes actions that may rely on mitigation measures to prevent significant effects occurring); these were therefore taken forward to a Stage 2 Appropriate Assessment (AA), aimed at providing information for the competent authority to complete its own appropriate assessment of the drought plan.

Table 5-6: Summary of Habitats Site requiring Stage 2 AA

Habitat site	Potential for LSE Alone or in-combination with other plans and projects?
Abberton Reservoir SPA	Yes – alone (operation only)
Abberton Reservoir Ramsar site	Yes – alone (operation only)
Breckland SAC	Yes – alone (operation only)
Colne Estuary (Mid-Essex Coast Phase 2) SPA	Yes – alone (operation only)
Colne Estuary (Mid-Essex Coast Phase 2) Ramsar site	Yes – alone (operation only)
Essex Estuaries SAC	Yes – alone (operation only)
Nene Washes SAC	Yes – alone (operation only)
Nene Washes SPA	Yes – alone (operation only)
Nene Washes Ramsar site	Yes – alone (operation only)
Norfolk Valley Fens SAC	Yes – alone (operation only)
Ouse Washes SAC	Yes – alone (operation only)
Ouse Washes SPA	Yes – alone (operation only)
Ouse Washes Ramsar site	Yes – alone (operation only)
River Wensum SAC	Yes – alone (operation only)
Rutland Water SPA	Yes – alone (operation only)
Rutland Water Ramsar site	Yes – alone (operation only)

The results of the Stage 2 AA are shown in **Table 5-7**. The proposed drought actions would have Adverse Effect on Integrity (AEol) on 10 of the Habitats Sites alone or in-combination, however, with mitigation measures in place, all adverse effects would be mitigated. Therefore, no further assessment is required.

Table 5-7: Conclusions of Stage 2 AA

Habitat site	AEol without mitigation?	AEol with mitigation?
Abberton Reservoir SPA	No	N/A
Abberton Reservoir Ramsar site	No	N/A
Breckland SAC	Yes – alone (operation only)	No
Colne Estuary (Mid-Essex Coast Phase 2) SPA	No	N/A
Colne Estuary (Mid-Essex Coast Phase 2) Ramsar site	No	N/A

Habitat site	AEol without mitigation?	AEol with mitigation?
Essex Estuaries SAC	No	N/A
Nene Washes SAC	Yes – alone (operation only)	No
Nene Washes SPA	Yes – alone (operation only)	No
Nene Washes Ramsar site	Yes – alone (operation only)	No
Norfolk Valley Fens SAC	No	N/A
Ouse Washes SAC	Yes – alone (operation only)	No
Ouse Washes SPA	Yes – alone (operation only)	No
Ouse Washes Ramsar site	Yes – alone (operation only)	No
River Wensum SAC	Yes – alone (operation only)	No
Rutland Water SPA	Yes – alone (operation only)	No
Rutland Water Ramsar site	Yes – alone (operation only)	No

5.7 SUMMARY

Demand actions generally ease pressure on water resources with low environmental impact, delivering benefits through reduced abstraction and improved drought resilience. Some adverse effects can arise with respect to other users where restrictions of water use are involved and also for cultural heritage and emissions.

Standard supply actions generally rely on existing abstraction licences, established infrastructure and operational adjustments, which keeps their environmental footprint low. Most effects are negligible to minor and temporary. These actions provide benefits for system efficiency and drought resilience.

Extreme demand actions can lead to moderate to major effects on households, businesses, recreation and wellbeing, although environmental effects generally remain minor and short-lived. Extreme supply actions, introduce more noticeable construction-related and operational impacts, but they also provide resilience benefits, ensuring essential supplies can be maintained when all other actions have been exhausted.

For drought permits, the assessment identified environmental risks for both surface and groundwater systems, particularly where reduced flows influence water quality, biodiversity and recreation. Most adverse effects stem from secondary changes, such as lower flows, altered habitat conditions or temporary water-quality shifts, linked to increased abstraction. While mitigation can reduce these impacts, some actions interact more strongly with sensitive receptors.

The River Nene (Rutland Water) and River Gt Ouse (Grafham Water) Drought Permits show the most significant effects, with potential major effects on flows and associated risks for biodiversity and water-environment objectives. These impacts are more pronounced for summer permits, when baseline flows are already low and ecosystems are more vulnerable.

The River Trent (Hall WTW) drought-permit action performs notably better than the other drought-permit actions, reflecting the smaller change in flows associated with the permit. Environmental effects across the objectives are negligible, with no sensitive designated sites at risk. In contrast to actions where reduced flows interact with vulnerable habitats or GWDTEs, the River Trent (Hall WTW) drought-permit action presents minimal ecological sensitivity, and any hydrological changes are temporary and reversible.

6. CUMULATIVE ASSESSMENT

6.1 INTRODUCTION

Schedule 2 of the SEA Regulations requires that the Environmental Report considers the likely significant cumulative effects of implementing DP27. The cumulative, or in-combination, assessment findings presented in this section have been carried out in line with the methodology described in **Section 4.3.3**.

DP27 comprises a suite of drought actions that may be deployed in various combinations depending on the severity, duration, and spatial extent of a drought. Because the sequence and combination of measures cannot be forecast in advance, it is not possible to model specific cumulative scenarios at this stage. Furthermore, drought trigger levels are driven by real-time hydrological conditions, and the nature of future drought events is inherently uncertain. Accordingly, the SEA adopts a precautionary approach, focusing on the potential for overlapping operational effects. More detailed assessment will be undertaken once individual actions are triggered and their implementation pathways have been confirmed.

6.1.1 Demand actions

The matrix in **Table 6-1** identifies potential operational overlap between demand management actions. The matrix does not represent magnitude of environmental effect but highlights where implementation timing may interact. Demand management actions generally reduce abstraction pressure and therefore are unlikely to generate adverse cumulative effects.

The nature of the demand actions means that their specific locations are not known, and there is therefore insufficient information to determine cumulative effects with certainty. Where actions result in additional vehicle movements across the supply area to support operational activities, this is expected to be short term, intermittent and dispersed over a wide geographic area, and as such any cumulative effects are anticipated to be limited and not significant.

It is recognised that the Non-essential Use Ban and the Emergency Drought Order operate sequentially. The Non-essential Use Ban remains in place while the Emergency Drought Order is active, representing the worst-case scenario for demand management. As the Emergency Drought Order supersedes and intensifies the restrictions already in place, the effects of the two actions are not additive.

Demand actions are based on smart metering, leakage reduction and water efficiency, aimed at lowering customer consumption and reducing pressure on water resources, which in turn decreases the volume of water that needs to be abstracted at source. As a result, they have a beneficial influence on both supply actions and drought permit actions, helping to moderate abstraction requirements and support more sustainable use of available water during drought conditions.

Table 6-1: Cumulative Effects Matrix, Demand Actions

Communication campaigns and messaging									
Water efficiency activities									
Customer metering									
Targeted Leakage Reduction									
Pressure Optimisation									
Tariffs									
Temporary Use Ban (TUBs) – Level 2									
Non-essential Use Ban (NEUBs) – Level 3									
Emergency Drought Order – Level 4									
Demand Actions	Communication campaigns and messaging	Water efficiency activities	Customer metering	Targeted Leakage Reduction	Pressure Optimisation	Tariffs	Temporary Use Ban (TUBs) – Level 2	Non-essential Use Ban (NEUBs) – Level 3	Emergency Drought Orders – Level 4

Legend:

	No cumulative effects identified or beneficial cumulative effects anticipated
	Potential cumulative adverse interaction identified (if actions are concurrent)
	Actions typically implemented sequentially under drought trigger hierarchy
	Uncertain – Insufficient information available to undertake assessment

6.1.2 Drought Permits

This section considers the potential cumulative effects arising from the implementation of supply drought permit actions across the Anglian Water operational area. Site-specific cumulative effects within individual catchments are addressed in the EARs prepared for each drought permit.

The EARs adopt a precautionary scenario in which relevant actions within a defined hydrological area may operate concurrently, subject to regulatory controls. Extreme supply actions have been assessed separately due to their distinct operational characteristics.

Given the uncertainty surrounding the timing, sequencing, and geographical overlap of drought action implementation across different catchments, a detailed, modelling-based cumulative assessment at the whole-area scale has not been undertaken. Instead, a qualitative cumulative assessment has been applied, consistent with the methodology set out in **Section 4**. In practice, during a drought event, the EAR findings

would be revisited and a cumulative assessment carried out for the specific actions selected for implementation.

The matrix in **Table 6-2** illustrates potential incompatibility and cumulative effects between the drought permit supply actions. Effects with other drought permits are also considered in the HRA in-combination assessment in **Section 6.2**.

Table 6-2: Cumulative Effects Matrix, Drought Permit Supply Actions

River Nene (Pitsford Water) Drought Permit							
River Nene (Rutland Water) Drought Permit							
River Gt Ouse (Grafham Water) Drought Permit							
Lower Colne (Ardleigh Reservoir) Drought Permit							
Wellington Wellfield (Stoke Ferry & Marham WTW) Drought Permit							
Costessey (Heigham WTW) Drought Permit							
River Trent (Hall WTW) Drought Permit							
Drought permit supply actions	River Nene (Pitsford Water) Drought Permit	River Nene (Rutland Water) Drought Permit	River Gt Ouse (Grafham Water) Drought Permit	Lower Colne (Ardleigh Reservoir) Drought Permit	Wellington Wellfield (Stoke Ferry & Marham WTW) Drought Permit	Costessey (Heigham WTW) Drought Permit	River Trent (Hall WTW) Drought Permit

Legend:

	No cumulative effects identified or beneficial cumulative effects anticipated
	Potential cumulative adverse interaction identified (if actions are concurrent)
	Actions typically implemented sequentially under drought trigger hierarchy
	Uncertain – Insufficient information available to undertake assessment

The River Nene (Rutland Water) Drought Permit could operate at the same time as the River Nene (Pitsford Water) Drought Permit, so a combined hydrological assessment was undertaken for Reaches 5 and 6 (see **Figure 6-1**). With only the River Nene (Pitsford Water) permit in place, both reaches experience negligible hydrological impacts, with only minor effects in Reach 5 during a winter implementation. In contrast, the River Nene (Rutland Water) permit alone reduces minimum residual flows by up to 62.5 MI/d in summer and 75 MI/d in winter, resulting in major hydrological impacts in both seasons.

The difference in percentage changes between the River Nene (Pitsford Water) Drought Permit being operational and both the River Nene (Pitsford Water) and the River Nene (Rutland Water) Drought Permits being operational shows that in combination, there is a further reduction of 36.8% and 34.9% in the summer Q95 and Q99 flow statistics, and a further reduction of 42.7% and 26.9% in the annual Q95 and Q50 flow statistics for Reach 5. For Reach 6, these further reductions are 33.3% and 30.2% in the summer Q95 and Q99 flow statistics, and 37.4% and 24.4% in the annual Q95 and Q50 flow statistics. These cumulative

reductions result in major hydrological impacts in both seasons, reflecting the dominant influence of the River Nene (Rutland Water) permit in these reaches.

Associated cumulative geomorphological effects are assessed as moderate, and water quality would deteriorate, particularly in relation to orthophosphate and dissolved oxygen. These combined hydrological, geomorphological and water-quality impacts have the potential to affect designated and sensitive ecological receptors, including the Nene Washes SAC/SPA/Ramsar/SSSI, Rutland Water SPA/Ramsar, Woodston Ponds and Boardwalks LNRs, Local Wildlife Sites (LWS), coastal and floodplain grazing marsh, and notable species such as spined loach, bullhead, barbel and European eel, as well as WFD receptors including invertebrates, macrophytes and phytobenthos (see EARs for full cumulative assessment).

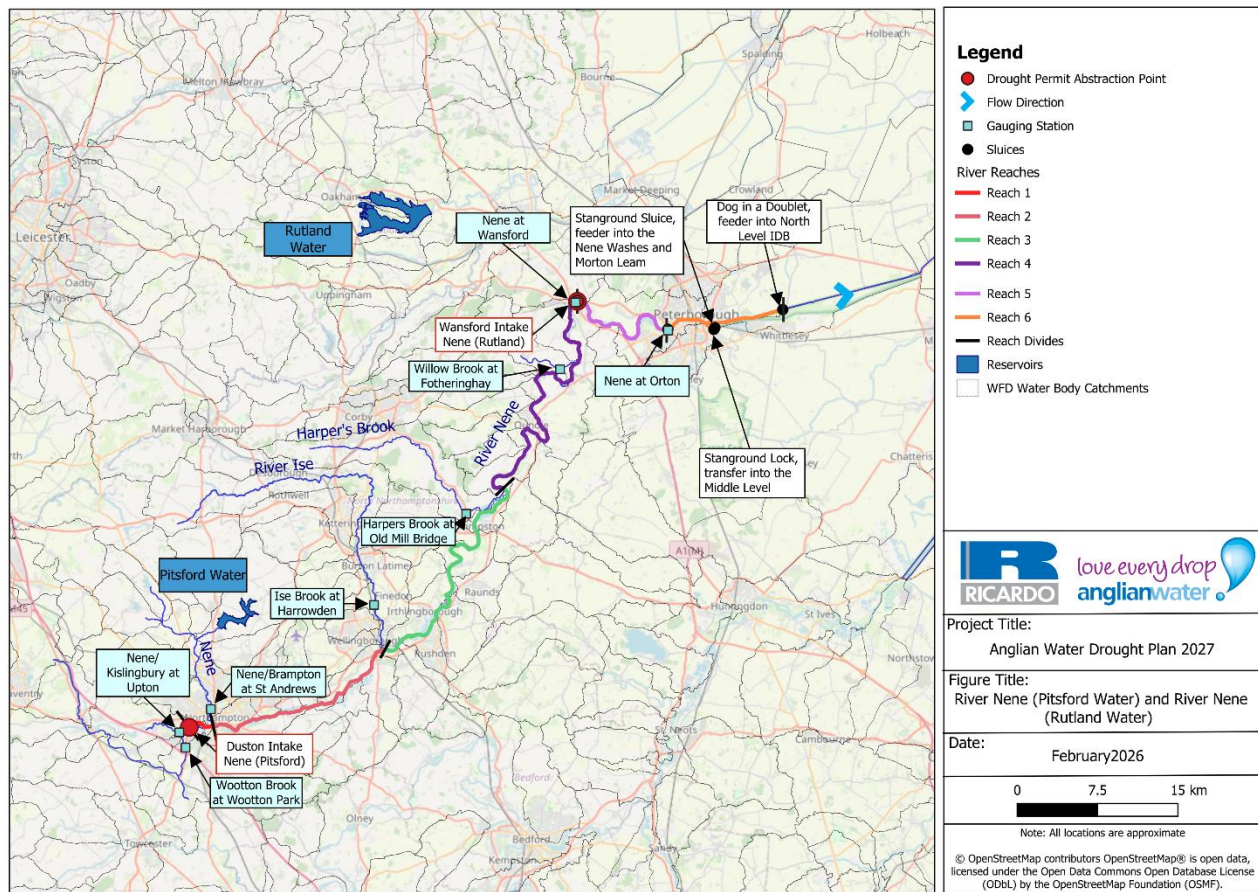


Figure 6-1: River Nene (Rutland Water) and River Nene (Pitsford Water) Drought Permits

6.1.3 Standard Supply Actions

There is limited spatial definition to assess geographical cumulative effects of the standard supply actions. Their overall adverse impact profile is low, with most actions relying on existing licences or infrastructure and therefore avoiding major construction-related disturbance. Where multiple actions operate concurrently, cumulative effects would typically be limited to short-term emissions from vehicle movements, minor construction works or temporary operational adjustments, all of which are manageable through standard good practice. In contrast, many actions deliver cumulatively beneficial outcomes with measures such as alternative abstraction sources, river support and internal or external transfers helping to maintain flows and levels during drought conditions, moderating pressures on sensitive water bodies and supporting ecological resilience. Loss reduction, supply system optimisation and conjunctive use provide more substantial cumulative benefits by improving system efficiency, reducing abstraction pressure on surface and groundwater bodies and enhancing operational flexibility. While some actions, such as source commissioning, maintenance, rehabilitation and tankering, may introduce temporary adverse effects, these do not combine to create significant cumulative impacts. Overall, the cumulative assessment indicates that standard supply actions contribute positively to drought resilience, resource efficiency and environmental protection, with any adverse effects remaining limited in scale, duration and spatial extent.

6.1.4 Extreme Actions

Neither the extreme demand nor the extreme supply actions have defined locations, meaning there is insufficient spatial information to assess geographical cumulative effects. Extreme demand actions operate at a strategic scale and primarily reduce overall water use, easing pressure on the water environment. These actions are therefore cumulatively beneficial, helping to maintain flows, levels and dilution capacity, and moderating the effects of supply-side actions. There is, however, a potential cumulative social burden where multiple demand actions, such as tariffs, restrictions, pressure management and intensive communications, are applied simultaneously. This may raise concerns around equity and acceptability, particularly for vulnerable customers. Careful sequencing and layering of demand actions can minimise disproportionate social impacts while maximising environmental benefit.

Cumulatively, groundwater actions can increase abstraction pressure on aquifers and groundwater-dependent surface waters and wetlands. Multiple actions within the same groundwater body may lead to lower groundwater levels, reduced baseflow and a risk of WFD deterioration. In-combination effects could arise for GWDTEs, baseflow-dependent rivers and designated sites (SAC/SPA/Ramsar/SSSI) if several groundwater actions operate concurrently in the same area. River support, drought permits and orders can also substantially alter flow regimes, compounding water-quality risks and geomorphological stress.

Conversely, recycling and reuse actions can offset abstraction from sensitive sources, providing a net beneficial cumulative effect where they substitute rather than supplement conventional abstraction. Spatial redistribution actions shift pressure between catchments, and cumulative effects depend on both donor and receiving systems; multiple transfers may compound stress on donor catchments. Overall, most extreme supply actions would operate within existing licences, which are designed to protect environmental integrity. Nevertheless, there remains insufficient information to identify cumulative effects beyond those assessed for individual actions. As further detail becomes available, these actions can be reassessed.

6.1.5 Summary

Given the uncertainties around timing, sequencing and spatial overlap, a precautionary qualitative assessment has been applied. Overall, cumulative impacts are expected to remain minor, with the most notable risks confined to a small number of hydrologically linked drought permit actions.

6.2 HABITATS REGULATIONS ASSESSMENT IN-COMBINATION ASSESSMENT

The HRA in-combination assessment of drought permits is detailed in **Table 6-3**. As River Nene (Rutland Water) and River Nene (Pitsford Water) Drought Permits are both hydrologically connected via the River Nene as well as flowing into The Wash and North Norfolk Coast SAC and The Wash SPA and Ramsar site alongside Wellington Wellfield (Stoke Ferry & Marham WTW), in-combination effects have only been considered for these actions.

Table 6-3: Summary of the in-combination assessment between Drought Permits

Option	In-Combination With	Relevant Habitats Site	Effect In-Combination
River Nene (Rutland Water)	River Nene (Pitsford Water)	Nene Washes SAC, SPA and Ramsar site	No – Due to inputs from the Great Billing water recycling centre (WRC), Broadhome WRC and Flag Fen WRC increase water flows downstream of the abstraction point at Pitsford/ Duston Mill intake. Additionally, tributaries between the Pitsford/ Duston Mill and Rutland/ Wansford intake assist in diluting nutrient concentrations in the River Nene. Therefore, no in-combination effects are anticipated.
		The Wash and Norfolk Coast SAC	No – Due to structural controls along the River Nene and the input of additional flows from WRCs and tributaries, no in-combination effects are anticipated.

Option	In-Combination With	Relevant Habitats Site	Effect In-Combination
		The Wash SPA and Ramsar site	No – Due to structural controls along the River Nene and the input of additional flows from WRCs and tributaries, no in-combination effects are anticipated.
		Rutland Water SPA and Ramsar site	No - Due to the contribution of water supplies from connecting tributaries and other discharges that are expected to dilute nutrient concentrations in the River Nene during low flow periods. In addition, Rutland Water is also supplied water via WRCs and tributaries between Pitsford/ Duston Mill and Wansford under drought permit conditions. Previous assessments (Atkins, 2012) also concluded there would be no in-combination effects should drought actions be implemented at the same time. Therefore, no in-combination effects are anticipated.
River Nene (Rutland Water)	Wellington Wellfield (Stoke Ferry & Marham WTW)	The Wash and Norfolk Coast SAC	No – As there is negligible hydrological impact from both drought permits on The Wash and Norfolk Coast SAC, no in-combination effects are anticipated.
		The Wash SPA and Ramsar site	No – As there is negligible hydrological impact from both drought permits on The Wash SPA and Ramsar site, no in-combination effects are anticipated.

6.3 CUMULATIVE EFFECTS WITH EXISTING RELEVANT PROGRAMMES, PLANS, POLICIES AND PROJECTS

6.3.1 Other water company Drought Plans

The cumulative effects of the Drought Plans of the following neighbouring water companies have been assessed:

- Affinity Water (Eastern Region)
- Cambridge Water
- Essex and Suffolk Water
- Thames Water
- Severn Trent Water

Affinity Water's 2023 Drought Management Plan identified nine drought permits for groundwater sources. None of these sources coincide with those included in the Anglian Water DP27. Therefore, it is unlikely there will be any pathways for cumulative effects between the two Plans.

Cambridge Water's DP22 notes that Cambridge Water provides up to 0.25 Ml/d to Anglian Water under an existing bulk supply agreement and includes supply actions such as outage reduction, bulk supply optimisation and use of existing licensed headroom. The Little Ouse is identified as being supported by groundwater sources in Cambridge Water's DP22. When considered together, Anglian Water's and Cambridge Water's drought plans are not expected to create significant cumulative impacts on the Little Ouse. Anglian Water's Wellington Wellfield (Stoke Ferry & Marham WTW) Drought Permit action has negligible environmental effects, while Cambridge Water's Level 3 supply-side action could temporarily influence groundwater-supported flows. Even if both plans were activated concurrently, any combined effects would remain short-term, closely monitored and reversible, with no long-term deterioration anticipated once drought conditions ease.

No potential pathways have been identified for cumulative effects with Essex and Suffolk Water's DP22.

Cumulative effects have not been identified between Thames Water's DP22 and Anglian Water's DP27. The actions set out in Thames Water's DP22 are geographically separate from those in Anglian Water's plan, with no measures affecting the same surface water catchments or groundwater bodies.

Severn Trent Water's DP22 identifies four drought permits/orders which discharge into the River Trent and ultimately the Humber River Basin: Tittesworth Reservoir and River Churnet, River Derwent at Ambergate, Derwent Reservoirs and River Dove. Any combined effects of these actions are likely to be negligible, as the affected water bodies contribute less than 4% of the Q₉₅ flow to the Humber Estuary. On this basis, no significant cumulative effects are expected in combination with Anglian Water's DP27 River Trent (Hall WTW) Drought Permit.

A bulk supply agreement exists between Severn Trent Water and Anglian Water, providing up to 18 Ml/d of treated water from Anglian Water's Ruthamford North WRZs to Severn Trent's Strategic Grid. However, this supply does not automatically vary in response to drought actions, nor does the agreement require Anglian Water to impose water-use restrictions on customers supplied via this transfer. Although no clear pathway for cumulative environmental effects has been identified, during drought conditions, close liaison between the companies would be required.

6.3.2 Water Resource Management Plans

6.3.2.1 *Anglian Water's Water Resource Management Plan 2024*

The SEA of the WRMP24 has been reviewed to determine whether any cumulative effects could arise between the actions proposed in the two plans. WRMP24 has a direct relationship with Anglian Water's DP27, as the delivery of 1-in-500-year drought resilience (by 2040 under Plan B) is intended to remove the need for drought permits during drought events up to that level of severity. WRMP24 includes a range of supply actions, such as aquifer storage and recovery, backwash recovery, conjunctive use, groundwater treatment, reservoirs, tankering, trading, transfers, desalination, water reuse and water treatment works, some of which fall within the WRZs where DP27 drought permit actions may be implemented.

The Colchester Advanced Water Recycling (direct to Ardleigh Reservoir) in WRMP24 was assessed as having minor adverse effects on biodiversity, priority species and vulnerable habitats. With appropriate mitigation, these effects are expected to be minor, and the action provides a beneficial contribution to optimising available water resources. Given the limited scale of these effects, no cumulative effects are anticipated when considered alongside the Lower Colne (Ardleigh Reservoir) Drought Permit action in DP27.

No significant adverse environmental effects have been identified for the transfer pipelines or resilience actions proposed in WRMP24, and no clear pathways for cumulative effects have been identified between these actions and the drought actions in DP27. The two plans are broadly complementary; WRMP24 introduces long-term strategic interventions that reduce reliance on drought permits and other short-term responses, thereby reducing the frequency and scale at which DP27 actions may be required.

Potential cumulative risks are limited to scenarios in which WRMP24 supply-side schemes and DP27 drought actions affect the same catchments or groundwater bodies simultaneously. These interactions are expected to be manageable within existing regulatory and licensing safeguards. Overall, no significant cumulative effects have been identified, and any future interactions can be reviewed as WRMP24 schemes progress.

6.3.3 Other water company Water Resource Management Plans

A review of the latest WRMPs for neighbouring companies identified no potential for cumulative effects with Anglian Water's drought actions. This includes the WRMPs for:

- Affinity Water (Eastern Region)
- Cambridge Water
- Thames Water
- Severn Trent Water

Essex and Suffolk Water's WRMP24 identifies Abberton Reservoir SPA/Ramsar, Colne Estuaries SPA/Ramsar and the Essex Estuaries SAC as having potential for likely significant effects. However, its assessment concludes that, with the proposed monitoring and mitigation in place, no significant changes to qualifying species, habitats or supporting processes would occur. On this basis, the SEA identifies no significant adverse cumulative effect on these designated habitats arising from the implementation of the Lower Colne (Ardleigh Reservoir) Drought Permit in combination with the Essex and Suffolk Water WRMP24.

6.4 OTHER PLANS AND PROJECTS

6.4.1 Water Resources East (WRE) Regional Plan

Water Resources East (WRE) published its Regional Water Resources Plan for Eastern England in 2023 (WRE, 2023) followed by the 2024 and 2025 Progress Reports (WRE, 2026). Progress has been made on the Strategic Resource Options (SROs) in the region, including the Fens Reservoir (supported by Anglian Water and Cambridge Water) and the Lincolnshire Reservoir (supported by Anglian Water). Both reservoirs are scheduled to become operational outside the timeframe of this drought plan: the Fens Reservoir is expected to enter supply between 2035 and 2037, while the Lincolnshire Reservoir is planned for 2035 to 2039 (WRE, 2023). Construction of the Fens Reservoir is anticipated to begin in 2029 and is likely to give rise to construction-phase impacts. However, with the mitigation measures identified in Anglian Water's WRMP24, these impacts can be minimised. Importantly, both reservoirs are designed to provide 1-in-500-year drought resilience, reducing the future need for drought permits once operational. Any operational hydrological changes associated with either reservoir fall beyond the current drought planning period and will require full consideration in the next drought plan cycle.

6.4.2 Anglian River Basin Management Plan (RBMP)

The potential for cumulative effects between supply and drought permit actions and the drought-related measures set out in the Anglian Water River Basin Management Plan (RBMP) has been assessed.

The information used for this assessment represents the most up-to-date data available at the time of writing. However, these conclusions should be revisited at the point of drought action implementation to ensure no changes to the RBMPs have occurred in the interim and that the assessment remains valid. The RBMPs, including the objectives and associated measures, are reviewed and updated on a 6-year cycle. The most recent updates were published in 2022 and the updated RBMPs are expected from the Environment Agency in 2028. These should be taken into account in the preparation of the next Drought Plans.

The Anglian RBMP outlines measures required to achieve the WFD objectives and provides the strategic framework for protecting and enhancing the water environment. The SEA (EA, 2023) concluded that the implementation of the RBMP is expected to result in beneficial or neutral environmental effects. Beneficial effects were anticipated for biodiversity, population and human health, and material assets. Neutral effects were identified for soil, water, climatic factors, and landscape, while effects on cultural heritage remain uncertain. Any localised adverse effects are expected to be mitigated effectively during implementation. Consequently, no cumulative effects are anticipated between the Anglian RBMP and the drought actions in Anglian Water's DP27.

6.4.3 Canal & River Trust Drought Plans

The Canal & River Trust (formerly British Waterways) does not have a Drought Plan (Canal & River Trust, 2015), therefore it is not possible to determine if there are any cumulative effects. The Trust operates various navigable waterways and canals in the Anglian region. Anglian Water would need to liaise with the Trust on the cumulative effects of proposed drought management actions affecting waterways in the Anglian region, including the potential adverse impacts of river abstractions on navigation.

6.4.4 Cambridge and Peterborough Combined Authority Local Transport Plan (LTP)

A review of the Cambridge and Peterborough Combined Authority Local Transport Plan (LTP) identified potential pathways for impacts on the Ouse and Nene Washes SAC, SPA and Ramsar, including air pollution, disturbance (human presence, noise, vibration and lighting) and water pollution. The HRA for the LTP concluded that no LSE were anticipated on these Habitats Sites, and no impacts on water flow or hydrology were identified. However, the implementation of the River Gt Ouse (Grafham Water) and River Nene (Rutland Water) Drought Permits may give rise to cumulative effects on water quality, particularly in relation to phosphate levels.

Phosphate inputs are primarily associated with sewage treatment works and agricultural runoff, with only a very minor contribution from road runoff. On this basis, it is unlikely that the water pollution from implementation of the LTP would give rise to effects on any Habitats Sites. Nevertheless, the effects of individual transport projects on water quality should be considered on a case-by-case basis, as project details are finalised. Further

assessment of specific LTP projects will be required to understand any potential cumulative risks to water quality, particularly orthophosphate, and, consequently, to the Ouse and Nene Washes designations.

6.4.5 Other plans and projects

For alignment between the SEA and the HRA, the same set of “other plans and projects” has been considered when assessing potential cumulative effects. These were identified through a review of relevant strategic plans, infrastructure proposals and major development projects within the wider region. Plans and projects were selected where they fall within the same broad geographic area, share hydrological connectivity with the same rivers or catchments, or are of a comparable scale or nature to the drought actions assessed in this SEA..

The following additional plans and projects were reviewed:

- National Policy Statement – Sizewell C
- Cambridge-Milton Keynes-Oxford corridor
- East West Rail
- A47 North Tuddenham to Easton improvements
- A428 Black Cat to Caxton Gibbet improvements
- Cambridge and Peterborough Combined Authority Local Transport Plan (LTP)
- Greater Cambridge Local Plan (GCLP)
- Cambridge Children’s Hospital and Cambridge Cancer Research Hospital
- Melbourn Science Park – Redevelopment
- Cambridge North Station Commercial Quarter Offices
- Medworth Energy from Waste Combined Heat and Power Facility

Each has been reviewed to determine whether its implementation could reasonably coincide with drought actions and whether any overlapping pathways for cumulative environmental effects exist. As detailed in the HRA, no LSEs were identified due to the nature, timing and implementation of these plans and projects. On this basis, no meaningful cumulative effects were identified, as the reviewed plans and projects either operate at different timescales, lack direct environmental interaction with the drought actions, or include controls that limit the potential for combined impacts.

7. MITIGATION AND MONITORING

Key stages of the SEA process comprise Task B5: *Mitigating adverse effects*, Task B6: *Proposing measures to monitor the environmental effects of plan or programme implementation* and Stage E: *Monitoring the significant effects of the plan or programme on the environment* (see **Section 1.7**, **Table 1-3**).

The sections below describe how these tasks have been addressed and how Anglian Water intend to ensure that mitigation measures are implemented for any adverse effects that are identified and the means by which the environmental performance of the DP27 can be assessed.

7.1 MITIGATION

Consideration of mitigation measures has been an integral part of the SEA process. The methodology for the assessment of the drought actions is provided in **Section 4**. The SEA assessments have been based on residual impacts, i.e. those impacts likely to remain after the implementation of embedded design mitigation or standard good practice. Certain assumptions have been made regarding this:

- Where suitable mitigation measures are known and identified (e.g. as informed through EARs, where available), these have been taken into account, such that the resultant residual impact has been determined. Full details of proposed mitigation measures for drought permit/ actions can be found in the DP27 EMP.
- In line with UKWIR SEA Guidance (UKWIR, 2021), the SEA assessments assume implementation of reasonable mitigation, such as the use of standard construction practice. This is particularly applicable to unused supply actions which are currently non-commissioned and which do not operate as 'business as usual' and would require recommissioning in the event of use as a drought action.
- No mitigation is proposed for abstraction licences which are issued by the Environment Agency based on an assessment of the potential impacts on the environment. These licences already contain flow constraints at low flows or conditions associated with an operating agreement. This is applicable to all actions with existing abstraction licence limits which have been subject to the Environment Agency's Review of Consents process.

Potential mitigation measures have been identified through the combined Environmental Assessment and SEA process. These measures will need to be agreed with the relevant regulators, and include:

- Early and ongoing public communication on drought status, water restrictions, temporary bans and Emergency Drought Orders to support behavioural change and reduce demand.
- Targeted consultation with affected water users, including abstractors, navigation authorities, angling groups and landowners, to understand licence interactions, operational constraints and potential cumulative impacts.
- Close liaison with the EA and NE throughout implementation to ensure regulatory alignment, rapid response to emerging risks and agreement on adaptive management actions.
- Pre-emptive ecological and hydrological walkovers to document baseline channel conditions, habitat extent, species presence and sensitive features requiring protection.
- Gradual ramping up or down of abstraction to avoid sudden hydrological shocks to aquatic species and habitats.
- Temporary reduction or cessation of abstraction or compensation flows where monitoring indicates risk of stranding, displacement or deterioration in water quality.
- Use of variable abstraction rates and protection of spate flows to maintain ecological connectivity and prevent stagnation.
- Operational adjustments to water-level and flood-risk management structures to help sustain minimum ecological flows and navigation depths.
- Targeted dredging and weed clearance to maintain navigation, angling access and amenity where environmentally appropriate.
- Deployment of aeration, over-pumping to reconnect isolated pools, and fish rescues or relocations where fish are at risk, undertaken with EA/NE oversight.

- Temporary improvements to fish passage at barriers where migratory species congregate during low flows.
- Restocking using catchment-derived broodstock where monitoring confirms loss of fish abundance or recruitment.
- Localised habitat enhancement (e.g., marginal planting, in-channel structure improvements) designed to build long-term resilience to future droughts.
- Targeted INNS control using methods that minimise harm to native species already stressed by drought.
- Avoidance of herbicide/biocide use during peak ecological sensitivity unless essential and tightly controlled.
- Deployment of temporary water-quality interventions such as phosphate-removal treatment or aeration where monitoring indicates deterioration.
- Ensuring adequate treatment of transferred or reused water, including effluent, before discharge to receiving waterbodies.
- Agreement with the EA on water-quality requirements for any inter-catchment transfers.
- Use of renewable or low-carbon energy sources for high-energy pumping operations where feasible.
- Operational optimisation to minimise unnecessary pumping and reduce energy demand during drought response.
- Implementation of Historic England's Preserving Archaeological Remains (2016) guidance where water-level changes risk exposing or degrading archaeological assets.
- Adaptive flow management to minimise geomorphological impacts such as excessive siltation or erosion.

There are additional mitigation measures which have been recommended for the drought permit actions. These are covered in more detail in the EARs and HRA.

7.2 MONITORING

Monitoring is required to track the environmental effects to show whether they are as predicted, to help identify any adverse impacts and trigger deployment of mitigation measures.

Drought Plans encompass a basket of actions that will only be implemented if and when required because of the unpredictable occurrence of a drought event, and thus the actual impact of the plan over its life is subject to significant uncertainties.

Anglian Water's DP27 includes a range of possible actions to allow Anglian Water to respond to a particular drought in the most appropriate way. It is not possible to predict which and how many of the actions will be required, and in which order of priority, to respond to each particular drought event. Correspondingly, monitoring is outlined for individual drought actions with significant environmental effects, rather than for the Drought Plan as a whole. For drought permit actions where the environmental assessment identified the potential for moderate or major impacts, site-specific monitoring has been recommended to support the effective implementation of mitigation measures. These requirements are set out in the Environmental Assessment Reports (EARs). Monitoring would take place at three key stages:

1. Drought level 1.
2. during drought permit implementation.
3. post drought permit implementation.

This monitoring framework provides an adaptive mechanism to ensure that emerging effects are identified early and that mitigation can be applied promptly and proportionately. Some examples of monitoring considered include:

- Enhanced water level, flow and water quality monitoring, including orthophosphate, dissolved oxygen and ammonia, to detect deterioration early and trigger mitigation thresholds.
- Targeted monitoring of GWDTEs, wetlands and designated sites to identify stress responses and inform flow adjustments.

- Regular inspection and maintenance of screens, fish passes and return channels to ensure safe fish movement during low-flow conditions.
- Monitoring of known INNS hotspots to detect changes in distribution linked to altered flow conditions.

As described in **Section 1.6**, EARs for drought permit actions include detailed EMPs in Appendix C. The Drought Plan Guidelines require the environmental assessment and EMPs to be updated regularly. The monitoring requirements will be updated as further details become available. In the event of a drought, Anglian Water will review the EMPs in consultation with the Environment Agency and Natural England.

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APPENDICES

Appendix A	Review of Plans and Programmes
Appendix B	Environmental Baseline Review
Appendix C	SEA Scoping Consultation Responses
Appendix D	Assessment Tables
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APPENDIX A: REVIEW OF POLICY, PLANS AND PROGRAMMES

The findings of the review of policy, plans and programmes are set out in **Table A-1**. The purpose of the review and the key findings are set out in **Section 2.2** of the Environmental Report. This table sets out the purpose and objectives of the policy, plans and programmes, their potential relationship with Anglian Water’s DP27 and the potential implications of the plan objectives for the objectives of the SEA. In some cases, reference to guidance is also included.

Table A-1: Summary of the Policy, Plans and Programmes reviewed and their link to the Drought Plan SEA

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
International	
Convention on Biological Diversity (2022) <i>Kunming-Montreal Global Biodiversity Framework (GBF)</i>	
The Kunming-Montreal Global Biodiversity Framework (GBF) is an outcome of the 2022 United Nations Biodiversity Conference and was adopted during COP15. The GGF contains four global goals and 23 targets, categorised into three areas; reducing threats to biodiversity, meeting peoples needs through sustainable use and benefit-sharing and tools and solution or implementation and mainstreaming. Although not a legally binding treaty, the GBF is expected to have a major impacts in countries as they endeavour to meet their targets, through development of new plans and regulations. For example, protected areas will be expanded and subsidies for ecologically destructive activities such as fishing will have to be redirected.	The SEA should seek to promote the protection and enhancement of biodiversity.
Council of Europe (1979) <i>The Convention on the Conservation of European Wildlife and Natural Habitats (The Bern Convention)</i>	
International convention which aims to ensure conservation of wild flora and fauna species and their habitats. Special attention is given to endangered and vulnerable species, including endangered and vulnerable migratory species specified in appendices. Enforced in European legislation through the Habitats Directive (92/43/EEC) and Birds Directive (79/409/EEC).	The SEA should seek to promote the protection and enhancement of biodiversity.
Council of Europe (1983) <i>The Convention on the Conservation of Migratory Species of Wild Animals (The Bonn Convention)</i>	
Aims to conserve terrestrial, marine and avian migratory species by protecting endangered, conserving or restoring the places where they live, mitigating obstacles to migration and controlling other factors that might endanger such species. Enforced in European legislation through the Habitats Directive (92/43/EEC) and Birds Directive (79/409/EEC).	The implementation of the DP27 may influence biodiversity in the Anglian Water area and as such the SEA should seek to maintain or enhance the quality of habitats and biodiversity.
Council of Europe (1985) <i>Convention for the Protection of the Architectural Heritage of Europe</i> Granada Convention	
To reinforce and promote policies for the conservation and enhancement of Europe's heritage.	The SEA should take into account the need to conserve heritage.
Council of Europe (1992) <i>Valletta Convention on Protection of Archaeology</i>	
The Valletta Convention is one of a series of Conventions for the protection of the cultural heritage produced by the Council of Europe over the last fifty years.	The SEA should take into account the need to conserve heritage.

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
Council of Europe (2000) <i>European Landscape Convention (Florence Convention)</i>	
The European Landscape Convention is an international convention focusing specifically on landscape. The UK Government signed the European Landscape Convention in 2006 and it became binding from March 2007.	The SEA should take landscape quality into account and include water quality in the assessment framework.
Council of Europe (2006), <i>European Landscape Convention</i>	
European Landscape Convention (ELC) is the first international convention to focus specifically on landscape. Natural England implements the European Landscape Convention in England. The aims of the 2009/10 action are: • Lead on improving the protection, planning and management of all England's landscapes • Raise the quality, influence and effectiveness of policy and practical instruments • Increase the engagement in and enjoyment of landscapes by the public • Collaborate with partners across the UK and Europe.	The implementation of the DP27 may influence landscape or the enjoyment of landscapes in the Anglian Water SEA study area and as such the SEA should consider the need to maintain or enhance the quality of the regions landscapes and the potential enjoyment of these landscapes.
EC 2001/42/EC on the Assessment of the Effects of Certain Plans and Programmes on the Environment (SEA Directive)	
The SEA Directive provides the following requirements for consultation: • Authorities which, because of their environmental responsibilities, are likely to be concerned by the effects of implementing the plan or programme, must be consulted on the scope and level of detail of the information to be included in the Environmental Report. These authorities are designated in the SEA Regulations as the Consultation Bodies. • The public and the Consultation Bodies must be consulted on the draft plan or programme and the Environmental Report, and must be given an early and effective opportunity within appropriate time frames to express their opinions. • EU Member States must be consulted if the plan or programme is likely to have significant effects on the environment in their territories. • The Consultation Bodies must also be consulted on screening determinations on whether SEA is needed for plans or programmes under Article 3(5), i.e. those which may be excluded if they are not likely to have significant environmental effects.	The Directive sets the basis for SEA as a whole and therefore indirectly covers all objectives. The SEA Directive has been transposed into UK Law through the SEA Regulations.
European Commission (2008) Ambient Air Quality Directive (2008/50/EC)	

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
The European Commission's Ambient Air Quality Directive (2008/50/EC) sets limits for key air pollutants to protect human health and the environment. It requires member states to monitor air quality, report findings, and implement action plans where limits are exceeded. The directive also mandates public access to up-to-date air quality information.	The implementation of the DP27 may have some influence on air quality, either directly or indirectly through construction or operation activities. The SEA should seek to ensure that the region's air quality is maintained or enhanced, and that emissions of air pollutants are kept to a minimum.
European Commission (2009) Promotion of the use of energy from renewable sources Directive (2009/28/EC)	
Sets binding targets to increase the share of energy from renewable sources. It promoted simplified procedures, grid access, and sustainability criteria for biofuels.	The implementation of the DP27 may have an influence upon total energy use. The SEA should aim to encourage energy efficiency and work towards minimising climate change impacts by reducing greenhouse gas emissions. Additionally, it should support the adoption of renewable energy whenever applicable.
European Commission (2016) National Emissions reduction Commitments (NEC) Directive 2016/2284/EU	
This sets targets for reducing emissions of key air pollutants, including SO₂, NO_x, NH₃, NMVOCs, and PM_{2.5}, from 2020 onwards. It requires the development of air pollution control programs and report emissions annually and supports the goal to improve air quality and protect health and the environment.	The implementation of the DP27 may have some influence on air quality, either directly or indirectly through construction or operation activities. The SEA should seek to ensure that the region's air quality is maintained or enhanced, and that emissions of air pollutants are kept to a minimum.
European Commission (2008) Ambient Air Quality and Cleaner Air for Europe Directive 2008/50/EC Air Quality	
This sets limits for major air pollutants to protect health and the environment. It requires the monitoring of air quality, report data, and implement action plans if limits are exceeded. It also ensures the public receives timely information on air quality levels	The implementation of the Development Plan could impact air quality, either directly or indirectly, through construction or operational activities. The SEA should aim to protect or improve the region's air quality and minimise emissions of air pollutants.
European Commission (2009), <i>Birds Directive (2009/147/EC)</i>	
The Directive provides a framework for the conservation and management of, and human interactions with, wild birds in Europe. It sets broad objectives for a wide range of activities, although the precise legal	The SEA should seek to protect and conserve important bird habitats.

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
mechanisms for their achievement are at the discretion of each Member State (in the UK delivery is via several different statutes).	
European Commission (1999) <i>Landfill of Waste Directive (99/31/EC)</i>	
The Directive aims at reducing the amount of waste landfilled; promoting recycling and recovery; establishing high standards of landfill practice across the EU, and preventing the shipping of waste from one Country to another. The objective of the Directive is to prevent or reduce as far as possible negative effects on the environment (in particular on surface water, groundwater, soil, air and human health) from the landfilling of waste, by introducing stringent technical requirements for waste and landfills.	The DP27 should take the effects on waste to landfill into account. The SEA assessment should consider the effects on water, soil, air, human health and waste.
ICOMOS (2011) <i>Guidance on Heritage Impact Assessments for Cultural World Heritage Properties</i>	
This document provides guidance on the process of Commissioning Heritage Impact Assessments (HIAs) for World Heritage properties in order to evaluate effectively the impact of potential development on the Outstanding Universal Value (OUV) of properties. The guidance is addressed at managers, developers, consultants and decision-makers and is also intended to be relevant to the World Heritage Committee and States Parties. The concept of OUV underpins the whole World Heritage Convention and all activities associated with properties inscribed on the List.	The SEA Framework should include an objective on the conservation and enhancement of heritage.
IUCN (2013) <i>World Heritage Advice Note: Environmental Assessment</i>	
This Advice Note provides States Parties and other stakeholders with guidance on how to identify, evaluate, avoid and mitigate potential impacts of development proposals on World Heritage values, before decisions are taken. It provides guidance on integrating natural World Heritage Sites within Environmental Assessments. It includes a set of World Heritage Impact Assessment Principles that can be applied to all types of environmental Assessments, a list of key questions to ask concerning World Heritage during the assessment as well as step-by-step guidance.	The DP27 should seek to contribute towards the protection of World Heritage Sites. The SEA assessment framework should include objectives and guide questions relating to the conservation of World Heritage Sites. The SEA assessment should also reflect/incorporate the principles of the guidance, where relevant.
Ramsar Convention (1971) <i>The Convention on Wetlands of International Importance</i>	
The Convention on Wetlands (Ramsar, Iran, 1971) (the "Ramsar Convention") is an intergovernmental treaty that embodies the commitments of its member countries to maintain the ecological character of their Wetlands of International Importance and to plan for the "wise use", or sustainable use, of all of the wetlands in their territories.	The impacts of the DP27 actions on important wetland habitats must be considered as part of the SEA.
United Nations (1992), <i>Convention on Biological Diversity (CBD)</i>	

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
The main objectives are: • Conservation of biological diversity • Sustainable use of its components • Fair and equitable sharing of benefits arising from genetic resources	The commitment to conserving biological diversity must be considered in any DP27 actions and the SEA should seek to promote the protection and enhancement of biodiversity.
United Nations Economic Commission for Europe (1998) <i>Aarhus Convention - Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters</i>	
The Aarhus Convention grants the public rights regarding access to information, public participation and access to justice, in governmental decision-making processes on matters concerning the local, national and transboundary environment. It focuses on interactions between the public and public authorities. The Aarhus Convention has been ratified by the European Community, which has begun applying Aarhus-type principles in its legislation, notably the Water Framework Directive (Directive 2000/60/EC).	The Convention is designed to improve the way ordinary people engage with government and decision-makers on environmental matters. It helps to ensure that environmental information is easy to get hold of and easy to understand. The SEA should seek to provide easily understood information to the public on the environmental implications of the DP27 and its constituent actions.
United Nations (2015) <i>The 2030 Agenda for Sustainable Development</i>	
This Agenda is a plan of action for people, planet and prosperity. It also seeks to strengthen universal peace in larger freedom. The Agenda remains the world's roadmap for ending poverty, protecting the planet and tackling inequalities. The 17 Sustainable Development Goals (SDGs), the cornerstone of the Agenda, offer the most practical and effective pathway to tackle the causes of violent conflict, human rights abuses, climate change and environmental degradation and aim to ensure that no one will be left behind. The SDGs reflect an understanding that sustainable development everywhere must integrate economic growth, social well-being and environmental protection.	The DP27 should be influenced strongly by all of these themes and should seek to take the SDGs into account. The SEA should seek to promote the achievement of the sustainable development goals outlined in this plan.
United Nations (2016) The Paris Agreement (2016) and Cancun Agreement (2011)	
The agreement represents key steps forward in capturing plans to reduce greenhouse gas emissions and to help developing nations protect themselves from climate impacts and build their own sustainable futures. It includes a shared vision to keep global temperature rise to below two degrees Celsius.	The SEA should consider the need for water companies to seek to promote a reduction in greenhouse gas emissions in carrying out its service activities.
UNESCO (2001) Convention on the Protection of Underwater Cultural Heritage	
The UNESCO Convention on the Protection of Underwater Cultural Heritage (2001) establishes an international framework to safeguard submerged cultural sites, such as shipwrecks and ruins, over 100 years	The DP27 and SEA should take account of the need to protect underwater cultural heritage where relevant.

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
old. It aims to prevent looting and damage by promoting responsible research, preservation, and cooperation among nations. The Convention encourages the protection of underwater heritage as part of humanity's shared cultural legacy.	
World Health Organisation (2004) Children's Environment and Health Action Plan for Europe	
This plan aims to protect children's health by addressing environmental risks. It focuses on four priority goals: ensuring clean air, providing safe water, managing chemical and physical agents, and preventing injuries. The plan encourages countries to develop and implement national policies and actions tailored to their specific needs	The SEA must take into account impacts of the drought actions (construction and operation) on the environment, as well as the population and human health.
The World Heritage Convention (UNESCO) 1972 – a global instrument for the protection of cultural and natural heritage.	
A global instrument for the protection of cultural and natural heritage. Signatories commit themselves to refraining from 'any deliberate measures which might damage, directly or indirectly, the cultural and natural heritage' of their World Heritage Sites.	The DP27 and SEA should take account of the need to protect scheduled monuments and archaeological areas.
World Heritage Site Management Plans (various)	
World Heritage Site Management Plans are developed for each designated site to guide its protection, conservation, and sustainable use. They vary by location but typically include policies for managing heritage significance, engaging stakeholders, and addressing risks such as development or climate change. These plans are essential for meeting UNESCO requirements and preserving the Outstanding Universal Value of each site.	The DP27 should aim to support the safeguarding of World Heritage Sites. The SEA assessment framework ought to include objectives and guiding questions focused on their conservation. Where appropriate, the SEA should also incorporate the principles outlined in relevant guidance.
National	
Ancient Monuments and Archaeological Areas Act 1979	
This act addresses the protection of scheduled monuments including the control of works affecting scheduled monuments. It also addresses archaeological areas.	The DP27 and SEA should take account of the need to protect scheduled monuments and archaeological areas.
Canal & River Trust (2015) Water Resources Strategy 2015 – 2020	
The Strategy sets out the Canal & River Trust's overarching vision for the period 2015 – 2020 for how it intends to manage water resources across the inland waterway network that it manages. The strategy is focused on delivering long-term security of water supply for the Canal & River Trust to achieve its vision of living waterways that transform places and enrich lives.	The DP27 should take into consideration the potential impact on the supply of water to the inland waterway network within the Anglian Water operational area.

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
	The SEA should consider the effects of the DP27 on the long-term supply of water to the canal network.
Canal & River Trust (2015) Living Waterways Transform Places & Enrich Lives: Our 10 Year Strategy	
This strategy outlines a ten-year vision to revitalise England and Wales's waterways. It focuses on six strategic goals: enhancing waterways, enriching places, supporting prosperity, engaging people, increasing influence, and securing resources. The strategy aims to position waterways at the heart of communities, fostering wellbeing, biodiversity, and economic vitality.	The DP27 should take into consideration the potential impact on the supply of water to the inland waterway network and its value to population and human health within the Anglian Water operational area. The SEA should consider the effects of the DP27 on the long-term supply of water to the canal network.
Centre for Environment Fisheries and Aquaculture Science and Natural Resources Wales (2021) Assessment of Salmon Stocks and Fisheries in England and Wales 2020	
This report highlights continued declines in wild Atlantic salmon populations. It emphasises the impact of environmental pressures, habitat loss, and climate change. The assessment done in the production of this report informed conservation targets and management actions to protect and rebuild salmon stocks.	The SEA and DP27 should consider the protection of salmon and freshwater fish.
The Climate Change Act 2008	
This act sets carbon targets for 2050. Under The Climate Change Act 2008 (2050 Amendment) Order 2019 the UK is required to reduce all greenhouse gas emissions to net zero by 2050.	This target needs to be taken into account by the SEA.
Department for Culture, Media and Sport (DCMS) (2001) The Historic Environment – A Force for the Future	
This strategy outlines the Governments policy regarding the historic environment. The strategy has key aims and objectives that demonstrate the contribution the historic environment makes to the country's economic and social well-being.	The DP27 and the SEA should seek to ensure any adverse effects on heritage assets are minimised or avoided.
DCMS and Welsh Government (2007) Heritage Protection for the 21st Century	
The document has three core principles: • Developing a unified approach to the historic environment; • Maximising opportunities for inclusion and involvement; and • Supporting sustainable communities by putting the historic environment at the heart of an effective planning system.	The assessment framework should include objectives which take into account the principles of heritage protection.

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
DCMS (2013) Scheduled Monuments & Nationally Important but Non-Scheduled Monuments	
This policy statement sets out Government policy on the identification, protection, conservation and investigation of nationally important ancient monuments, under the provisions of the Ancient Monuments and Archaeological Areas Act 1979. It includes principles relating to the selection of scheduled monuments and the determination of applications for scheduled monument consent.	The DP27 should seek to avoid adverse impacts on scheduled and unscheduled monuments. The SEA assessment framework should include specific objectives relating to cultural heritage.
DCMS (2016) The Culture White Paper	
This white paper sets out how the government will support the cultural sectors over the coming years and how culture will play an active role in building a fairer and more prosperous nation. It includes four key themes: everyone should enjoy the opportunities culture offers, no matter where they start in life; - the riches of our culture should benefit communities across the country; and - the power of culture can increase our international standing. The white paper includes objectives relating to the development of the historic environment sector, and the protection of world heritage.	The DP27 should seek to protect cultural heritage assets. The SEA assessment framework should include an objective relating to cultural heritage.
Department for Energy Security and Net Zero (DESNZ) (2023) National Policy Statements for energy infrastructure	
Energy National Policy Statements provide planning guidance for developers of nationally significant energy infrastructure projects. The energy National Policy Statements cover: - the overarching needs case for different types of energy infrastructure - natural gas electricity generation - renewable electricity generation - gas and oil infrastructure - electricity networks - nuclear power generation The guidance makes it easier for decision makers, applicants and the wider public to understand: - government policy on the need for nationally significant infrastructure projects (NSIPs) - how applications for energy infrastructure will be assessed	The DP27 must take account of the contents of the energy NPS. The impacts of the DP27 actions on energy generation and NSIPs must be considered as part of the SEA.

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
the way in which impacts and mitigations will be judged	
DESNZ and BEIS (2020) Energy white paper: Powering our net zero future	
The white paper outlines a series of policies and commitments made by the government as part of the transition to net zero carbon emissions. The strategies are threefold: - Prioritisation of renewable sources energy generation and invest in low-carbon technologies - Supporting a green recovery from COVID-19 through investment in green industries. - Creating a fair deal for consumers through facilitating competition, enhanced regulation and strategies to improve the energy performance of homes.	The implementation of the DP27 may have an influence upon Anglian Water's total energy use. The SEA should seek to promote energy efficiency, as well as seeking to reduce the effects of climate change through greenhouse gas emissions. The SEA should also promote the use of renewable energy, where relevant.
DESNZ and BEIS (2021) Heat and buildings strategy	
This strategy sets out how the UK will decarbonise our homes, and our commercial, industrial and public sector buildings, as part of setting a path to net zero by 2050. The heat and buildings strategy sets out the government's plan to significantly cut carbon emissions from the UK's 30 million homes and workplaces in a simple, low-cost and green way whilst ensuring this remains affordable and fair for households across the country. Like the transition to electric vehicles, this will be a gradual transition which will start by incentivizing consumers and driving down costs. There are about 30 million buildings in the UK. Heating these buildings contributes to almost a quarter of all UK emissions. Addressing the carbon emissions produced in heating and powering our homes, workplaces and public buildings can not only save money on energy bills and improve lives, but can support up to 240,000 skilled green jobs by 2035, boosting the economic recovery, levelling up across the country and ensuring we build back better.	The DP27 should consider the impact of water supply and usage on carbon emissions from buildings. The SEA should include objectives and guide questions relating to energy use and carbon emissions.
Department for Energy and Climate Change (2021) Net Zero Strategy: Build Back Greener	
The Net Zero Strategy sets out policies and proposals for keeping the UK on track for carbon budgets, the Nationally Determined Contribution (NDC), and sets out our vision for a decarbonised economy in 2050. The Strategy sets out a delivery pathway showing indicative emissions reductions across sectors to meet targets up to the sixth carbon budget (2033-2037).	The DP27 should consider if it can support the delivery of the aims of the strategy. The SEA should include objectives and guide questions relating to energy use and carbon emissions.
Defra (2018) Farming rules for water – getting full value from fertilisers and soil	
The Farming Rules for Water aim to reduce diffuse water pollution from agriculture in England. They require farmers to plan fertiliser applications based on soil and crop needs, conduct soil testing at least every five	The SEA should consider potential impacts to water quality and soil health

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
years, and take measures to prevent runoff and erosion. These rules promote sustainable farming practices that protect water quality while enhancing soil health and resource efficiency.	
Defra (2005) Making space for water: taking forward a new government strategy for flood and coastal erosion risk management in England	
The strategy outlines how to manage the risks from flooding and coastal erosion in the UK. The strategy aims to reduce the threat of flooding to people and their property, and to deliver the greatest environmental, social and economic benefit, consistent with the Government's sustainable development principles.	The SEA should seek to ensure that flood risk in the region is not adversely affected by the implementation of the DP27.
Defra (2006) Shoreline Management Plan Guidance	
A shoreline management plan (SMP) is a coastal defence management tool. It is a large-scale assessment of the risks associated with coastal processes and helps to reduce these risks to people and the developed, historic and natural environment. This guidance document sets out Defra's and the Welsh Government's strategy for managing flooding and coastal erosion.	The SEA should take into account the effects of the DP27 on areas with a SMP.
Defra (2007) The Air Quality Strategy for England, Scotland and Wales	
This strategy identifies air quality objectives and policy options to further improve air quality in the UK from into the long term. The options are intended to provide important benefits to quality of life and help protect the environment as well as the direct benefits to public health.	The implementation of the DP27 may have some influence on air quality, either directly or indirectly through construction or operation activities. The SEA should seek to ensure that the region's air quality is maintained or enhanced, and that emissions of air pollutants are kept to a minimum.
Defra (2025) <i>The Government's Approach to Rural Proofing</i>	
The document sets out how government departments should assess the potential impacts of policies on rural communities and ensure rural needs are considered fairly. Its objectives include improving service accessibility, supporting rural economies, addressing geographic and demographic challenges, and ensuring that national policies do not unintentionally disadvantage rural residents, businesses or environments.	The Drought Plan should consider the specific needs and vulnerabilities of rural communities, including impacts on rural water supply, agriculture, and local environments. The SEA should assess how drought options affect rural populations and ensure outcomes support equitable access, environmental protection and resilience in rural areas.
Defra (2007), Conserving Biodiversity in a Changing Climate: Guidance on Building Capacity to Adapt	

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
The guiding principles described in this document summarise current thinking on how to reduce the impacts of climate change on biodiversity and how to adapt existing plans and projects in the light of climate change. The guidance is intended to inform implementation of the UK Biodiversity Action Plan, taking account of climate change is relevant to the fulfilment of many international agreements and obligations affecting the UK.	The SEA must consider the impacts on biodiversity whilst also taking into account the potential for future climate change.
Defra (2008) Future Water: the Government's water strategy for England	
This strategy is the high level Government document which outlines how the Government wants the water sector to look by 2030, considering issues of water demand, water supply, water quality in the natural environment, surface water drainage, river and coastal flooding, greenhouse gas emissions and charging. It states that by 2030 at the latest, we have: • Improved the quality of our water environment and the ecology which it supports, and continued to provide high levels of drinking water quality from our taps • Sustainably managed risks from flooding and coastal erosion, with greater understanding and more effective management of surface water • Ensured a sustainable use of water resources, and implemented fair, affordable and cost-reflective charges.	The SEA should seek to ensure that the themes included in the strategy objectives are also reflected in the SEA objectives, particularly around water quality in the region, the quality of aquatic ecology, drinking water quality, resource use, energy use and greenhouse gas emissions, and adaptation to climate change.
Defra (2008) England Biodiversity Strategy –climate change adaptation principles	
Government strategy presenting five principles that are fundamental to conserving biodiversity during climate change. The precautionary principle underlies all the principles.	The SEA must consider the impacts on biodiversity whilst also taking into account the potential for future climate change.
Defra (2011) UK National Ecosystem Assessment and Defra, 2014, UK National Ecosystems Assessment Follow on, Synthesis of Key Findings	
Provides an analysis of the state of the UK's natural environment and the benefits it provides to people. It highlighted the importance of ecosystem services and the need for their sustainable management.	The SEA must consider the impacts on ecosystems and the need for their sustainable management.
Defra (2014) Biodiversity duty: public authority duty to have regard to conserving biodiversity	
This guidance mandates that public authorities must consider biodiversity conservation in all their functions. This includes protecting, restoring, and enhancing species and habitats, integrating biodiversity into policies, land management, and planning decisions. The aim is to embed biodiversity considerations across public sector activities to support nature recovery.	The SEA should seek to maintain or enhance the biodiversity and quality of habitats and biodiversity.

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
Defra (2009) Safeguarding our soils – A Strategy for England	
The Soil Strategy for England – Safeguarding our Soils – outlines the Government’s approach to safeguarding our soils for the long term. It provides a clear vision to guide future policy development across a range of areas and sets out the practical steps that we need to take to prevent further degradation of our soils, enhance, restore and ensure their resilience, and improve our understanding of the threats to soil and best practice in responding to them. The Governments vision is that: By 2030, all England’s soils will be managed sustainably and degradation threats tackled successfully. This will improve the quality of England’s soils and safeguard their ability to provide essential services for future generations.	The SEA should seek to ensure that the quality of the regions soils and their management is protected or enhanced.
Defra (2009) The Groundwater (England and Wales) Regulations 2009	
The Groundwater Regulations are designed to implement a daughter directive to the European Water Framework Directive and prevent or limit the inputs of polluting substances into groundwater.	The SEA should include an objective relating to the effects of actions on groundwater quality.
Defra, Department of the Environment (NI), Scottish Government and Welsh Assembly Government (2010) Air Pollution: Action in a Changing Climate	
This document highlights the health benefits that can be achieved through closer integration of air quality and climate change policies. Air pollution often originates from the same activities that contribute to climate change (notably transport and electricity generation), so linkages between these policy areas could help ensure that they are managed most effectively. Air quality/climate change co-benefits can be realised through actions such as promoting low-carbon vehicles and renewable sources of energy that do not involve combustion. The document aims to set ambitious but realistic air quality targets, and to ensure that climate and air quality targets are better aligned in future.	The DP27 should seek to ensure that air quality, climate change and human health are not adversely affected by the actions set out in the plan. The SEA should include guide questions relating to the effects of actions on human health and the environment.
Defra (2010) Making Space for Nature: A Review of England’s Wildlife Sites and Ecological Network	
This independent review of England’s wildlife sites and the connections between them sets objectives and recommendations to help achieve a healthy natural environment that will allow our plants and animals to thrive.	The SEA should seek to maintain or enhance the quality of habitats and biodiversity.
Defra (2011) UK National Ecosystem Assessment Defra (2014) UK National Ecosystems Assessment Follow on, Synthesis of Key Findings	
Ecosystems services from natural capital contribute to the economic performance of the nation.	For the purposes of the readership integrating an ecosystems services approach into the SEA is not being undertaken. However, it

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
Information and tools to enable decision makers to understand the wider value of ecosystems and their associated services.	is realised that through the 'Objective-led' approach, many of the services relevant to the DP27 can be considered through the objectives and key questions for example: • Provisioning Services: Freshwater • Provisioning Services: Biodiversity • Regulating Services: Water Regulation • Cultural services: Recreation and ecotourism • Cultural services: Cultural heritage values • Cultural services: Aesthetic The SEA should ensure the DP27 effects the related provisioning services in the least damaging way through informing the DP27 formulation and selection of DP27 actions during times of Drought.
Defra (2011) Biodiversity 2020: A Strategy for England's Wildlife and Ecosystem Services	
The objective for the next decade is: 'to halt overall biodiversity loss, support healthy well-functioning ecosystems and establish coherent ecological networks, with more and better places for nature for the benefit of wildlife and people.' Four action areas are: A more integrated large-scale approach to conservation on land and at sea Putting people at the heart of biodiversity policy Reducing environmental pressures Improving our knowledge.	The SEA must consider impacts on biodiversity. The implementation of the DP27 may influence biodiversity in the area and as such the SEA should seek to maintain or enhance the quality of habitats and biodiversity, and take regards of priority species.
Defra (2011) Mainstreaming Sustainable Development	
This document sets out the Government's vision for mainstreaming sustainable development in relation to the operation of its buildings and estates, including the goods and services that it buys and the policies it makes. It builds on the principles that underpinned the UK's 2005 sustainable development strategy and highlights that long term economic growth relies on protecting and enhancing the environmental resources that underpin it, and paying due regard to social needs. It sets out measures to achieve the mainstreaming of sustainable development, which include ministerial leadership and oversight; leading by example; embedding sustainable development in government policy; and transparency and independent scrutiny.	The DP27 should seek to be aligned with the principles of sustainable development. The SEA assessment framework should include objectives relating to the principles of sustainable development, including communities, economy, and environment.
Defra (2011) The Natural Choice: securing the value of nature, The Natural Environment White Paper	

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
Addresses the Government's approach to valuing economic and social benefits of a healthy natural environment while continuing to recognise nature's intrinsic value. It describes the vision of the Government for this to be the first generation to leave the natural environment of England in a better state than it inherited, requiring placing the value of nature at the heart of decision-making – in Government, local communities and businesses. Approaches to mainstream the value of nature across society include: • facilitating greater local action to protect and improve nature; • creating a green economy, in which economic growth and the health of our natural resources sustain each other, and markets, business and Government better reflect the value of nature; • strengthening the connections between people and nature to the benefit of both; and • showing leadership in the European Union and internationally, to protect and enhance natural assets globally	The DP27 supports the provisioning service of freshwater through ensuring security of supply during times of drought. The media campaigns that form part of the demand DP27 actions may contribute towards increasing the awareness of the population to the value the provisioning services of water. Other related ecosystem services may include: • Provisioning Services: Biodiversity • Regulating Services: Water Regulation • Cultural services: Recreation and ecotourism • Cultural services: Cultural heritage values • Cultural services: Aesthetic The SEA should ensure the DP27 effects the related provisioning services in the least damaging way through informing the DP27 formulation and selection of DP27 actions during times of Drought.
Defra (2012) National Policy Statement for Waste Water	
National Policy Statement (NPS) sets out Government policy for the provision of major waste water infrastructure. It will be used by the Infrastructure Planning Commission (IPC) to guide its decision making on development consent applications for waste water developments that fall within the definition of Nationally Significant Infrastructure Project (NSIP) as defined in the Planning Act 2008.	The SEA should seek to ensure the DP27 considers any unforeseen NSIP proposals that come forward prior to adoption which may affect water resources in the Anglian Water area.
Defra (2023) The National Policy Statement (NPS) for Water Resources Infrastructure	
This statement provides a strategic planning framework for the development of nationally significant water infrastructure projects in England. It aims to streamline the planning process for projects such as reservoirs, desalination plants, and water transfer systems, ensuring they meet the growing demands posed by climate change, population growth, and the need to protect the environment.	The SEA should seek to ensure the DP27 considers any unforeseen NSIP proposals that come forward prior to adoption.
Defra (2011) Government Review of Waste Policy in England 2011	
The review is guided by the “waste hierarchy”, EU obligations and targets on waste management, carbon impacts, environmental objectives and the costs and benefits of different policy options. The Governments vision include a move beyond the current throwaway society to a “zero waste economy” in which material resources are re-used, recycled or recovered wherever possible, and only disposed of as the option of very last resort.	The DP27 may involve actions that involve the generation of waste (e.g. either through construction requirements or operation of supply-side actions). The SEA should seek to enhance recycling and minimise the amount of waste going to landfill.

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
Defra (2013) What nature can do for you This guide is designed to help policy makers across Government to understand: • The value of what nature, • The costs and risks if take the value of nature's services are not considered in our decisions, • How to work with natural systems to help deliver efficiently in the future. The guide is focussed on helping policy makers to put this into practice and includes explanation of the principles of an ecosystems approach and details on how an ecosystems approach can help policy makers to take account of the value of the natural environment at every stage of the policy making process. A 'self-assessment' method is provided to help policy makers to see how they are doing already and what could be gained by doing more to understand how the natural environment interacts with their policy issue, Signposting is given to a range of detailed resources, case-studies and further reading on specific topics such as valuation and systematic thinking.	The DP27 should consider how to work with natural systems to provide efficient solutions with multiple benefits where possible, aiming to implement an ecosystems approach. The SEA should consider the effects of the DP27 on nature.
Defra (2014) River Basin Planning Guidance Aims to give guidance on practical implementation of the Water Framework Directive (WFD). The river basin planning process involves setting environmental objectives for all groundwater and surface waters (including estuaries and coastal waters) within the river basin district, and devising programmes of measures to meet those objectives.	The DP27 should take into account the contents of this statutory guidance.
Defra (2015) The government's response to the Natural Capital Committee's third State of Natural Capital report This provides a number of recommendations such as: Agreement for the development of a 25 year plan for a healthy natural economy. This includes helping organisations understand the economic, social and cultural value the impact their actions have on it and how to use the knowledge for better decisions; identify most important and threatened environmental assets; protection of designated areas; address outstanding monitoring and data issues to enable better decisions about strategic investments in natural capital. Assigning institutional responsibility for monitoring the state of natural capital. Organisations that manage land and water assets should create a register of natural capital for which they are responsible.	Outputs from the SEA process will help to inform any future potential development by Anglian Water of Natural Capital Accounting approaches to assessing environmental asset performance. Government (led by HM Treasury and Defra) is increasingly using NCA to support future environmental policy and decision-making, and there may be future expectations on water companies to follow suit.
Defra (2023) The Great Britain INNS Strategy	

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
The Strategy is intended to provide a strategic framework, updated from the 2008 framework, within which the actions of government departments, their related bodies and key stakeholders can be better co-ordinated. Its overall aim is to minimise the risks posed, and reduce the negative impacts caused, by INNS in Great Britain.	The implementation of the DP27 may influence biodiversity in the Anglian Water area and as such the SEA should seek to maintain or enhance the quality of habitats and biodiversity.
Defra and the Environment Agency (2018) Resources and Waste Strategy for England for England	
This strategy outlines a comprehensive plan to transition England towards a circular economy. Its primary objectives are to minimise waste, promote resource efficiency, and reduce environmental harm by keeping materials in use for as long as possible through reuse, repair, and recycling. Key measures include Extended Producer Responsibility (EPR) schemes, consistent recycling collections, and initiatives to combat waste crime, all aiming to eliminate avoidable waste by 2050 and double resource productivity.	The DP27 may need to consider the potential impact of actions on waste generation and on waste management facilities in the DP27 area. The SEA should consider the effects of the DP27 on waste generation and management capacity.
Defra (2020) Drought Plan Direction 2025	
Sets out the timescales for water companies to develop and consult on DPs. The direction is currently in the process of being updated for the next iteration of DPs and is anticipated to be published later this year.	The DP27 SEA will take account of the statutory requirements of this and any updated Direction, where relevant.
Defra and Environment Agency (2019) How to Write and Publish a Drought Plan, Consultation draft.	
This sets out how to assess the environmental effects of actions to maintain supply and how to mitigate. An environmental assessment must include details of changes as a result of actions to: • Water flow or level regimes • Water quality • Ecology (sensitive features, habitats and species) • Designated sites (habitats and species) • Fish populations (in particular migratory fish) Additionally, an assessment must include effects on WFD status and consider effects on river basin management plans. Assessments should also take into account the Handbook for Scoping Projects: Environmental Assessment and the EclA Guidelines. For SEAs of a Drought Plan, guidance should be followed in the DCLG (2005) Practical Guide to the SEA Directive and UKWIR (2012) SEA and Habitats Regulations Assessment: WRMPs and DPs.	The SEA must take into account the approach to environmental assessment and what needs to be done to mitigate or reduce adverse effects and provide compensation for effects that remain following mitigation.

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
Need to identify what needs to be done to mitigate or reduce adverse effects and provide compensation for effects that remain following mitigation. This includes the identification of pre-drought, in-drought and post drought mitigation actions.	
Environment Agency (2025) <i>National Framework for Water Resources 2025: water for growth, nature and a resilient future</i>	
The National Framework 2025 sets out a strategic approach for long-term water resource planning across England, aiming to ensure resilient public water supplies, support economic growth, and protect and restore the water environment. Its objectives include strengthening regional water resource planning, improving drought resilience, supporting environmental recovery, guiding investment in new infrastructure, and promoting demand management and sustainable abstraction to secure a resilient future for people, nature and the economy.	The Drought Plan should align with the Framework's principles of resilience, sustainable abstraction and environmental protection. The SEA should assess how drought measures support regional planning, protect water bodies and habitats, and contribute to long-term environmental and water-resource sustainability.
Environment Agency (2024) Environmental assessment for water company drought planning supplementary guidance, Consultation draft	
This supplements the guidance provided on how to write and publish a Drought Plan. It provides technical guidance on how to develop an environmental assessment for supply-side drought management actions to support a Drought Plan. It includes the need to consider whether an SEA is required for a Drought Plan.	The DP27 and SEA need to take account of the guidance provided by the Environment Agency
Defra, Environment Agency, Natural England, Forestry Commission England (2016) <i>Creating a great place for living</i>	
In 2016 Defra produced a report that set out objects to great a great place for living, The objectives are related to the following topics: • Environment – a cleaner, healthier environment, benefiting people and the economy; • Food and farming – a world-leading food and farming industry; • Rural – a thriving rural economy, contributing to national prosperity and wellbeing; • Protection – a nation better protected against floods, animal and plant diseases and other hazards, with strong response and recovery capabilities; • Excellent Delivery – Excellent delivery, on time and to budget with outstanding value for money; • An outstanding organisation – an organisation striving to be the best, focused on outcomes and constantly challenging itself.	The SEA must take into account impacts of the drought actions (construction and operation) on the environment, as well as the population and human health and land use (which will impact on the food and farming and rural objectives).
Defra (2020) <i>Enabling a Natural Capital Approach (ENCA)</i>	

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
ENCA resources are a mixture of data, guidance and tools that enable individuals/organisations to understand natural capital and know how to take it into account. The aims of ENCA are to: • Build capacity among users to assess and value the natural environment by providing comprehensive information and resources • Reduce search costs for analysts and decision makers • Provide a platform to update tools and guidance as knowledge develops • Identify new evidence and areas for development The guidance is a comprehensive document providing information and resources for Natural Capital, covering the natural capital framework, economic valuation of the environment, how project or policy appraisal can incorporate natural capital, natural capital accounting principles and methods, benefits and challenges and applying natural capital at a local level.	The SEA will help to inform future development by Anglian Water and therefore should consider the effect of the drought actions on opportunities for natural capital.
Defra (2020) National food strategy for England	
This strategy comprises two parts. Part One in July 2020 and Part Two in July 2021. It provides a review of England's food system, addressing issues from production to consumption. The strategy offers recommendations aimed at improving public health, ensuring food security, and promoting environmental sustainability.	The SEA must take into account impacts of the drought actions (construction and operation) on the environment, as well as the population and human health and land use.
Defra (2020) The Path to Sustainable Farming: An Agricultural Transition Plan 2021 to 2024	
Outlines a shift in agricultural policy in England, introducing a new Environmental Land Management (ELM) system. This transition focuses on supporting farmers and land managers in transitioning to more sustainable farming practices that benefit the environment and improve productivity.	The SEA must take into account impacts of the drought actions on the environment, as well as land use.
Defra (2021) Drought: how water companies plan for dry weather and drought	
Defra's guidance outlines how water companies in England and Wales must prepare for droughts through statutory drought plans. These plans detail actions such as monitoring water availability, implementing demand and supply management measures, and communicating with stakeholders. The aim is to ensure a secure water supply while protecting the environment during periods of dry weather.	The DP27 and SEA should reflect the requirements set out in the regulations.
Defra (2023) Environmental Improvement Plan 2023	
The Environmental Improvement Plan (EIP) 2023 for England is the first revision of the 25YEP. It builds on the 25YEP vision with a new plan setting out how we will work with landowners, communities and businesses to deliver each of our goals for improving the environment, matched with interim targets to measure progress.	The DP27 and SEA objectives should be consistent with the vision and interim targets set out in the EIP 2023, particularly where there is cross-over between the goals in the EIP and the SEA Objectives.

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
Taking these actions will help us restore nature, reduce environmental pollution, and increase the prosperity of our country.	
Defra (2026) A new vision for water (Policy paper)	
This White Paper sets out the UK Government's long-term reform programme for England's water sector, aiming to deliver cleaner water environments, resilient supplies, and improved regulatory oversight. It proposes a new strategic direction for water management, including streamlined planning frameworks, stronger environmental protections, and a shift toward integrated, catchment-based approaches. Key reforms include establishing a single, strengthened water regulator, improving investment certainty for infrastructure upgrades, enhancing customer protection, and accelerating action on pollution, storm overflows, and wastewater treatment. The vision emphasises long-term resilience to climate change, nature recovery, and sustainable water resource management, with a focus on transparency, accountability, and restoring public trust.	not only on the water environment but also on biodiversity, population and human health, climate change, and land use, ensuring alignment with the White Paper's ambitions for cleaner water, stronger regulation, climate resilience, and nature recovery.
Defra (2024) Understanding climate adaptation and the third National Adaptation Programme (NAP3)	
Defra published the third National Adaptation Programme (NAP3) in July 2023, outlining the UK government's strategy to enhance resilience against climate change impacts from 2023 to 2028. NAP3 addresses key climate risks identified in the UK's Climate Change Risk Assessment (CCRA3), focusing on areas such as infrastructure, health, agriculture, and biodiversity. The programme emphasises the importance of integrating climate adaptation into policy-making and encourages collaboration among government departments, local authorities, businesses, and communities to implement effective adaptation measures.	The SEA should seek to ensure that the programme objectives are also reflected in the SEA objectives particularly regarding the climate change and protecting the environment.
Department for Transport (2022) UK Electric Vehicle Infrastructure Strategy	
This strategy sets out the Department for Transport's vision and action plan for the rollout of electric vehicle charging infrastructure in the UK, ahead of the phase out dates. They intend: - to end the sale of new petrol and diesel petrol and diesel vehicles by 2030 - for all new cars and vans to be fully zero emission at the tailpipe by 2035	The DP27 should consider use of zero emission vehicles when delivering actions where applicable. The SEA should also promote the use of renewable energy, where relevant.
Department for Levelling Up, Housing and Communities and Ministry of Housing, Communities & Local Government) (2014) National Planning Policy for Waste	
Sets out detailed waste planning policies for local authorities. States that planning authorities need to: - Use a proportionate evidence base in preparing Local Plans - Identify sufficient opportunities to meet the identified needs of their area for the management of waste streams - Identify suitable sites and areas for waste facilities	The DP27 may need to consider the potential impact of actions on waste generation and on waste management facilities in the DP27 area. The SEA should consider the effects of the DP27 on waste generation and management capacity.

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
Department for Levelling Up, Housing and Communities and Ministry of Housing, Communities & Local Government (2015) Renewable and Low Carbon Energy Increasing the amount of energy from renewable and low carbon technologies will help to make sure the UK has a secure energy supply, reduce greenhouse gas emissions to slow down climate change and stimulate investment in new jobs and businesses. Planning has an important role in the delivery of new renewable and low carbon energy infrastructure in locations where the local environmental impact is acceptable.	The DP27 should, where possible, contribute towards increasing the proportion of energy from renewable energy sources. The SEA assessment framework should include consideration of the use of energy from renewable energy sources.
Department for Levelling Up, Housing and Communities and Ministry of Housing, Communities & Local (2024) National Planning Policy Framework (NPPF) The NPPF sets out the Government's planning policies for England and how these are expected to be applied. The National Planning Policy Framework constitutes guidance for local planning authorities and decision takers both in drawing up plans and as a material consideration in determining applications. At the heart of the NPPF is a presumption in favour of sustainable development, which should be seen as a golden thread running through both plan-making and decision-taking. The NPPF requires that the planning system should be genuinely plan-led and that plans should: • be prepared with the objective of contributing to the achievement of sustainable development; • be prepared positively, in a way that is aspirational but deliverable; • be shaped by early, proportionate and effective engagement between planmakers and communities, local organisations, businesses, infrastructure providers and operators and statutory Consultees; • contain policies that are clearly written and unambiguous, so it is evident how a decision maker should react to development proposals; • be accessible through the use of digital tools to assist public involvement and policy presentation; and serve a clear purpose, avoiding unnecessary duplication of policies that apply to a particular area (including policies in this Framework, where relevant).	The DP27 and SEA should take account of the key components of sustainable development and consider the three dimensions to sustainable development: economic, social and environmental.
Department for Levelling Up, Housing and Communities and Ministry of Housing, Communities & Local (various) Planning Practice Guidance Planning Practice Guidance (PPG) is designed to support the NPPF. It reflects the objectives of the NPPF which are not repeated here. PPG provides additional planning guidance on a number of topics. Those that are particularly relevant to the Drought Plan include:	The DP27 should take into consideration guidance set out in the PPG insofar as it relates to the area covered by the DP27.

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
• Air quality; • Appropriate assessment; • Climate change; • Effective use of land; • Flood risk and coastal change; • Healthy and safe communities; • Historic environment; • Natural environment; • Open space, sports and recreation facilities, public rights of way and local green space; • SEA and sustainability appraisal; and • Water supply, wastewater and water quality.	
Environment Agency (2013), <i>Managing Water Abstraction</i>	
This sets out how the EA manages water resources in England and Wales.	The SEA should consider the range of impacts that changes to abstractions could have on the environment, including water bodies, biodiversity, and water users.
Environment Agency (2007) <i>Soil: A Precious Resource</i>	
The soil strategy identifies the Environment Agency's priorities, sets out their role and says what action is to be taken to protect, manage and restore soil. Damaged soil structure can lead to flooding, water pollution and can affect the landscape and archaeological features. The strategy also outlines the part managing soils can play in mitigating climate change.	The DP27 should ensure the sustainable management of soil resources. SEA objectives should reflect and consider relevant priorities from the Soil: A Precious Resource publication.
Environment Agency (2004) <i>Catchment Flood Management Plans: Guidelines – Volume 1 Policy</i>	
These guidelines support the EA's strategy for flood risk management and work towards achieving the government's strategy for flood and coastal erosion flood risk management. The aims of Catchment Flood Management Planning is: • To promote sustainable flood risk management measures • To reduce the sources of flooding and harm to people, and the natural, built and historic environment caused by floods	The DP27 links to this plan where it affects flood risk or land management, for example through changes in abstraction or water storage. The SEA should consider how the DP27 may affect flood risk across the region.

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
To support the delivery of the Government's and others' policies and targets, and the Environment Agency's environmental vision.	
Environment Agency (2020) National Flood and Coastal Erosion Risk Management Strategy for England	
This updated strategy describes what needs to be done by all risk management authorities, including water and sewerage companies, involved in flood and coastal erosion risk management. It has 3 long-term ambitions: 1. Climate resilient places: improving resilience to flooding and coastal change; 2. Making the right investment and planning decisions to secure sustainable growth, environmental improvements and infrastructure resilient to flooding and coastal change; and Educating local communities to make sure that they understand their risk to flooding and coastal change.	The SEA should ensure the DP27 takes into consideration the long-term ambitions included in this document and contributes to the reduction in flood risk and coastal erosion.
Environment Agency (2020) Meeting Our Future Water Needs: A National Framework for Water Resources	
The national framework explores England's long-term water needs for: - Public water supplies; - agriculture; - the power and industry sectors; and - environmental protection The national framework report marks a move to strategic regional planning, which would be comprised of 5 regional groups (made up of the 17 English water companies and other water users)	The DP27 should consider the needs of the whole region and of other water users, in line with the expectations of this policy paper.
Environment Agency, Office for Water Services and Natural Resources Wales (2023) Water resources planning guideline	
This guideline is relevant to water companies in England and Wales. It is also relevant to those producing regional plans. This guideline is designed to help water companies in England or Wales write a WRMP and/or Regional Plan that complies with all the relevant statutory requirements and government policy.	The SEA should seek to ensure that water supplies and resources are maintained or enhanced in line with the Water Resources Planning Guideline.
Environment Agency and other Lead Authorities, <i>Shoreline Management Plans</i>	
A large-scale assessment of the risks associated with coastal processes with the aim to help reduce these risks to people and the developed, historic and natural environments. Coastal processes include tidal patterns, wave height, wave direction and the movement of beach and seabed materials.	The SEA should seek to promote a reduction of the risks identified in the Shoreline Management Plans.

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
The second generation of Shoreline Management Plans (SMPs) are in production, covering the entire 6000 kilometres of coast in England and Wales. This generation of plans aim to incorporate sea level rise resulting from climate change and current defences with limited life and improvement requirements.	
Environment Agency (undated), <i>WFD River Basin Characterisation Project: Technical Assessment Method - River abstraction and flow regulation</i>	
This paper describes the method used to assess the likelihood of river water bodies achieving the relevant WFD objectives as a result of artificial influences on low river flows.	Implementation of the DP27 may impact river water quality. The SEA should seek to promote the protection and enhancement of biodiversity and river water quality across the region.
Environment Agency (undated) <i>Hydroecology: Integration for modern regulation</i>	
This paper describes clear way forward in terms of hydroecology and a strategic direction to its development and application.	The DP27 and SEA should ensure relevant ecological considerations are integral to water resource evaluation and management decisions across the range of temporal and spatial scales.
Historic England (2008) Climate Change and the Historic Environment	
Sets out the current thinking on the implications of climate change for the historic environment. It is intended both for the heritage sector and also for those involved in the wider scientific and technical aspects of climate change; in the development of strategies and plans relating to the impact of climate change; or in projects relating to risk assessment, adaptation and mitigation.	The SEA should seek to assess the implications of the DP27 in combination with climate change and the potential impacts on heritage and the historic environment.
Historic England (2013) SEA, Sustainability Appraisal and the Historic Environment	
Guidance for addressing the historic environment in SEA or Sustainability Appraisal. It identifies the recommended list of plans, programmes and policies for review, approach to baseline review, potential sustainability issues.	The SEA should consider the potential effects of the DP27 on the historic environment, particularly designated assets and their settings, and to important wetland areas with potential for paleo-environmental deposits. Historic characterisation can supplement information about designations. Sustainability issues, objectives and indicators identified in this document should be taken into account in the SEA.
Historic England (2015) Historic Environment Good Practice Advice in Planning Note 3	
This provides guidance on managing change within settings of heritage assets. This includes archaeological remains, historic buildings, sites, areas and landscapes.	The SEA should take into account effects on settings of heritage assets.

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
Historic England (2015) The Setting of Heritage Assets, Historic Environment Good Practice Advice in Planning 3	
This provides guidance on assessing and managing the impact of development on the settings of heritage assets. It emphasises understanding how settings contribute to an asset's significance and suggests ways to minimise harm. The advice supports informed planning decisions to protect and enhance heritage value.	The SEA should consider the information set out in this advice note and seek to minimise impact to the setting of heritage assets.
Historic England (2023) <i>Heritage at Risk</i>	
Heritage at Risk is a national project that aims to identify the endangered sites (historic buildings and places with increased risks of neglect and decay) and then help secure them for the future. Regional Heritage at Risk Registers were most recently published in 2023.	The SEA should seek to protect and enhance heritage and landscape.
Historic England (2024) Heritage Counts: Historic Environment Overview 2023-24	
This document outlines the significant developments and showcases the efforts in preserving, celebrating and adapting the historic environment for current and future generations.	The SEA should consider the information set out in this report and seek to protect the historic environment.
Historic England (2022) A Strategy for Wellbeing and Heritage (2022 – 2025)	
This strategy provides Historic England's commitment to focus on several key areas: intent, which involves setting people-centered and heritage objectives and priorities; methods, which define how to choose to deliver and collaborate; and outcomes, which measure the difference made in people's lives.	The SEA should consider the information set out in this strategy and seek to protect the historic environment.
Historic England (2024) Peatlands and the Historic Environment	
This document emphasises the significance of peatlands in conserving archaeological remains. It details the locations of peat deposits and the rich variety of heritage assets linked to them. The report also sets out the primary natural and human-driven threats to peatlands, which are shared concerns across different sectors, and summarises various approaches to their protection.	The SEA should consider the information set out in this document and seek to protect peatlands.
Historic England (2019) Conservation Area Appraisal, Designation and Management Historic England Advice Note 1 (Second Edition)	
This document provides guidance on the management of conservation areas. It emphasises the importance of recognising the special interest of historic areas. The guidance also promotes community involvement and the use of digital tools in appraisals. Overall, it supports informed decision-making to conserve and enhance historic environments.	The SEA should consider the information set out in this guidance and seek to protect the historic environment.
English Heritage (2023) Sustainable Conservation Principles	

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
This document outlines an approach to preserving heritage assets while addressing environmental sustainability. A key aspect is integrating nature conservation, recognising that many sites support important habitats and species. The strategy also focuses on climate adaptation, aiming to enhance resilience against environmental challenges. Through these principles, English Heritage seeks to balance the preservation of cultural heritage with the need for environmental stewardship	The SEA should consider the information set out in this document and seek to protect the historic environment.
Historic England (2016) Historic England Advice Note 8: Sustainability Appraisal and SEA	
Guidance for addressing the historic environment in SEA or Sustainability Appraisal. It identifies the recommended list of plans, programmes and policies for review, approach to baseline review, potential sustainability issues.	The SEA should consider the potential effects of the DP27 on the historic environment, particularly designated assets and their settings, and to important wetland areas with potential for paleo-environmental deposits. Historic characterisation can supplement information about designations. Sustainability issues, objectives and indicators identified in this document should be taken into account in the SEA.
Historic England (2022) Climate change adaptation report	
This report outlines the organisation's strategies to address climate-related risks to England's historic environment. It builds upon previous reports, focusing on enhancing resilience through hazard mapping, risk assessment, and adaptation planning. The report emphasises the importance of integrating climate considerations into heritage management and highlights the need for collaboration with stakeholders to safeguard cultural heritage in the face of climate change.	The SEA should take into account the information presented in this document and aim to safeguard the historic environment.
Historic England (2022) Heritage and Climate Change	
This report sets out the organisation's approach to managing climate-related risks to England's historic environment. It highlights the growing threats to heritage assets such as coastal erosion, flooding, and temperature changes. The report stresses the importance of adopting adaptive measures to protect these assets and enhance their resilience amid changing climate conditions.	The SEA should consider the information set out in this document and seek to protect the historic environment.
Heritage Fund (2023) Heritage 2033 – our 10-year strategy	
This strategy outlines how the Heritage Fund plans to fulfil its vision of ensuring that heritage is valued, cared for, and sustained for everyone, both now and in the future. It focuses on four main areas: saving heritage, protecting the environment, promoting organizational sustainability, and fostering inclusion, access, and participation.	The SEA should consider the information set out in this strategy and seek to protect the historic environment.
Heritage and Conservation Strategies (various)	

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
Heritage and conservation strategies across the East of England aim to preserve the region's heritage and cultural assets while supporting sustainable development. Local authorities and heritage bodies aim to collaboratively protect listed buildings, conserve historic landscapes, and manage conservation areas, particularly in counties such as Norfolk, Suffolk, Cambridgeshire, and Essex. These strategies often align with national frameworks, such as Historic England's guidance, and emphasise community involvement, adaptive reuse of heritage assets, and sensitive integration of new developments.	The SEA should seek to protect and enhance heritage and landscape.
Visit East of England Destination Development Plan (2021)	
This plan provides a framework of objectives and actions for developing a sustainable, innovative visitor economy. It outlines strategic action priorities aimed at boosting the region's visitor economy including spreading tourist demand seasonally and geographically and promoting active travel like walking and cycling.	The SEA should seek to assess the implications of the DP27 and the potential impacts on recreation.
Local Cultural Strategies (various) – Suffolk, Peterborough, Northamptonshire, Norfolk, Essex and Cambridge City	
Developed by local authorities in collaboration with cultural partners and communities, these strategies reflect local priorities while aligning with national cultural policies. They aim to enhance access to cultural activities, nurture local talent, and promote cultural tourism. By fostering inclusivity, sustainability, and innovation, East of England's local cultural strategies contribute to the well-being and vibrancy of its diverse communities	The SEA should seek to assess the implications of the DP27 and the potential impacts on heritage and tourism.
Conservation Area Character Appraisals and Management Plans (various)	
Conservation Area Character Appraisals and Management Plans are used by local planning authorities across the East of England to preserve and enhance the architectural and historic character of designated areas. The accompanying management plans set out policies and actions to address threats, guide development, and ensure sensitive change. In the East of England, where towns and villages often have rich heritage assets, these appraisals help balance growth with conservation, supporting sustainable place-making and community identity.	The SEA should seek to protect and enhance heritage and landscape.
Listed building Heritage Partnership Agreements (HPAs) (various)	
Listed Building HPAs in the East of England offer a collaborative approach to managing change in historic buildings, particularly where multiple similar works are needed over time. These agreements encourage proactive and consistent conservation, particularly for complex or large sites, by fostering collaboration between owners, local authorities, and heritage bodies. HPAs help protect the historic significance of buildings while providing clarity, reducing delays, and supporting sustainable long-term use.	The SEA should seek to protect and enhance heritage in the region.
Flood and Water Management Act, 2010 as amended	

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
The Flood and Water Management Act 2010 aims to provide better, more comprehensive management of flood risk for people, homes and businesses. It aims improve efficiency in the water industry, improve the affordability of water bills for certain groups and individuals, and help ensure continuity of water supplies to the consumer.	The SEA should seek to ensure that flood risk in the region is not adversely affected by the implementation of the DP27 and that water supplies across the region are maintained.
HM Government (1975) Reservoirs Act	
The Reservoirs Act 1975 provides a legal framework to ensure the safety against failure of large, raised reservoirs. The act applies to reservoirs that hold at least 25,000 cubic metres of water above natural ground level. Safety legislation for reservoirs in the United Kingdom was introduced in 1930 after several reservoir disasters had resulted in loss of life. This law was superseded by the Reservoirs Act 1975. Under the Reservoirs Act 1975 reservoir owners (undertakers) have ultimate responsibility for the safety of their reservoirs. Reservoir owners must appoint a panel engineer (a specialist civil engineer who is qualified and experienced in reservoir safety) to supervise the design and construction of the reservoir, to continuously supervise the reservoir when built (supervising engineer) and to carry out periodic inspections (inspecting engineer).	The DP27 should consider any effects of actions on reservoirs capacity, functioning and downstream flows.
HM Government (1953) Historic Buildings and Ancient Monuments Act 1953	
This Act established a framework for the preservation and acquisition of buildings and land of outstanding historic or architectural interest, including their contents.	The SEA should seek to protect heritage buildings and monuments.
HM Government (1973) Protection of Wrecks Act 1973	
This Act protects historic wrecks, their sites, and potentially dangerous wrecks from unauthorised interference. It allows the UK government to designate wreck sites of historical, archaeological, or artistic importance for protection. It restricts unauthorised access, diving, or removal of items from designated sites to prevent damage or looting. This legislation helps safeguard underwater cultural heritage around the UK coast.	The SEA should seek to protect historic wrecks as part of the maintenance of the nation's heritage.
HM Government (1975) Salmon and Freshwater Fisheries Act 1975	
The act encompasses fishing regulation, as well as illegal obstruction of migratory pathways and prohibited modes of destroying fish. The act allows the salmon to maintain an environmentally stable population and support the fishing industry.	The SEA and DP27 should consider the protection of salmon and freshwater fish.
HM Government (1979) Ancient Monuments and Archaeological Areas Act 1979	

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
The Act defines sites that warrant protection as ancient monuments. They can be a Scheduled Monuments or "any other monument which in the opinion of the Secretary of State is of public interest by reason of the historic, architectural, traditional, artistic or archaeological interest attaching to it".	The DP27 is unlikely to impact on Scheduled Monuments, however, the SEA assessment framework should include consideration of Scheduled Monuments
HM Government (1981) <i>Wildlife and Countryside Act, 1981</i>	
The Act is the principle mechanism for providing legislative protection of wildlife in Great Britain. Species listed in Schedule 5 of the Act are protected from disturbance, injury, intentional destruction or sale. Other provisions outlaw certain methods of taking or killing listed species. This Act is brought up to date regularly to ensure the most endangered animals are on the schedule. The Act also improved protection for the most important wildlife habitats.	Some aspects of the DP27 may have effects on habitats and species in the Anglian Water supply area and beyond. The SEA should seek to maintain or enhance the quality of habitats and biodiversity, and take regard of protected species and habitats.
HM Government (1990) Planning (Listed Buildings and Conservation Areas) Act 1990	
This addresses listed buildings including prevention of deterioration and damage and preservation and enhancement of conservation areas.	The DP27 and SEA should take account of the need to protect listed buildings and conservation areas.
HM Government (1990) Environmental Protection Act	
The Act defines the legal framework for England, Wales and Scotland regarding environmental protection, including the duty of care for waste, contaminated land, and statutory nuisance. Under the Act, Local Authorities or private individuals may take action to secure abatement of any such nuisance, such as noise, and only one person need be affected for action to be possible. It also specifies offences related to the storage, movement, treatment or disposal of controlled waste, and sets out the regime for identifying and remediating contaminated land.	The DP27 must ensure compliance with the Act. The SEA assessment framework should include waste and nuisance.
HM Government (1990) Town and Country Planning Act 1990	
The Town and Country Planning Act controls and consents development, which is defined as building, engineering, mining or other operations in. on, over or under land, or the making of any material change in the use of any building or land.	The DP27 must ensure full compliance with the Act. The SEA should include objectives and guide questions relating to biodiversity, land use, and landscape.
HM Government (1991) Water Industry Act 1991 was amended by the commencement of Section 36 of the Flood and Water Management Act 2010	
This makes provision for general duties of water undertakers including those associated with water resources management plans and sets out supply duties.	The DP27 must take into account this legislation.

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
HM Government (2009) Water Resources Act, 1991 (Amendment) (England and Wales) Regulations 2009 SI3104	
Amends Water Resources Act 1991 by extending the use of Water Protection Zones and Works Notices, in particular to deal with harm to aquatic ecosystems caused by the physical characteristics of a water course or lake, such as quantity, structure and substrate of river/lake bed. Aligns the Water Resources Act with the hydromorphological requirements of the WFD	The SEA should include objectives that cover hydromorphological aspects and seek to ensure that hydromorphological features within the plan are maintained or enhanced.
HM Government (1991 and 1994) Land Drainage Act	
The Land Drainage Act 1991 requires that a watercourse be maintained by its owner in such a condition that the free flow of water is not impeded. The riparian owner must accept the natural flow from upstream but need not carry out work to cater for increased flows resulting from some types of works carried out upstream, for example a new housing development. If a riparian owner fails to carry out his responsibilities under the Land Drainage Act, or if anyone else causes a watercourse to become blocked or obstructed, the County and District Councils have powers of enforcement by serving a notice under the Act. If this is ignored, the Council concerned may carry out the necessary itself and then recharge the person responsible for the full cost incurred. The District Council normally implements these powers but the County Council will deal with problems that affect the highway. The person responsible may also be prosecuted for nuisance under the Public Health Act 1936. The 1994 Act amends the Land Drainage Act of 1991 in relation to the functions of internal drainage boards and local authorities.	The DP27 should be prepared in accordance with the act.
HM Government (1994) The Conservation (Natural Habitats, &c.) Regulations 1994	
These regulations transposed European Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (Habitats Directive) into national law. The Regulations provide for the designation and protection of 'European sites', the protection of 'European protected species', and the adaptation of planning and other controls for the protection of European Sites.	The DP27 should seek to protect European sites and species. The SEA assessment framework should include objectives and guide questions relating to the protection of European sites and species, as well as biodiversity more generally.
HM Government (1994) Urban Waste Water Treatment (England and Wales) Regulations 1994	
The Regulations transposed the requirements of the Urban Waste Water Treatment Directive 91/271/EEC (as amended). The Regulations impose requirements for: collection systems for treated urban waste water; discharges from treatment plants and sets out methods for monitoring; and makes provisions with regard to discharges of industrial wastewater and the dumping of sludge from ships.	The DP27 should reflect the requirements set out in the regulations.
HM Government (2000) The Countryside and Rights of Way (CROW) Act, 2000	

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
The Act provides for increased public access to the countryside and strengthens protection for wildlife. The main provisions of the Act are as follows: • Extends the public's ability to enjoy the countryside whilst also providing safeguards for landowners and occupiers • Creates new statutory right of access to open country and registered common Land Use Consultants • Modernises Right of Way system • Gives greater protection to SSSIs • Provides better management arrangements for National Landscapes • Strengthens wildlife enforcement legislation.	The DP27 may have an effect on public access to the countryside. The SEA should include objectives that take into account public access, protection of SSSIs and the management of relevant landscape designations.
HM Government (2002) The National Heritage Act 2002	
This Act builds on the preceding National Heritage Acts of 1980, 1983 and 1997. All four Acts define the way in which National heritage assets are managed and protected. The 2002 Act extended the powers of the Historic Buildings and Monuments Commission to include underwater archaeology within the territorial waters of the United Kingdom.	The DP27 should be compliant with the Act. The SEA should include objectives relating to the protection of heritage features.
HM Government (2006) Climate Change and Sustainable Energy Act 2006	
The Act was enacted after the publication of the UK Climate Change Programme (2006). It places an obligation on the government to report to Parliament on greenhouse gas emissions in the UK and action taken by Government to reduce these emissions.	The DP27 should take into account carbon emissions associated with the actions. The SEA could include an objective/guide question in the assessment framework to reduce greenhouse gas/carbon dioxide emissions. Consider whether the monitoring arrangements can be utilised to monitor the effects of the DP27.
HM Government (2007) Water Resources Management Plan Regulations 2007	
These Regulations set out the process for the preparation of WRMPs.	The DP27 should considered these regulations, where relevant.
HM Government (2008) Planning Act 2008	

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
This Act introduced a new system for nationally significant infrastructure planning, alongside further reforms to the Town and Country Planning system.	The DP27 should consider any unforeseen NSIP proposals that come forward prior to adoption which may affect water resources in the region. The SEA should consider the cumulative effects of the DP27 and any unforeseen NSIP proposals that come forward which may affect water resources in the region.
HM Government (2009) Marine and Coastal Access Act 2009	
The Marine and Coastal Access Act sets out a number of measures, including the establishment of Marine Conservation Zones (MCZs) and Marine Spatial Plans. I	The DP27 should have regard to effects on coastal areas. The SEA should take into account the effects of the actions on coastal environments where relevant.
HM Government (2009) The UK Renewable Energy Strategy	
The Strategy sets out to: • Put in place the mechanisms to provide financial support for renewable electricity and heat worth around £30 billion between up to 2020; • Drive delivery and clear away barriers; • Increase investment in emerging technologies and pursue new sources of supply; and • Create new opportunities for individuals, communities and business to harness renewable energy.	The DP27 should contribute towards increasing the proportion of energy from renewable energy sources, where possible. The SEA assessment framework should include consideration of the use of energy from renewable energy sources.
HM Government (2011) Localism Act 2011	
The Localism Act provides greater devolved powers to councils and neighbourhoods and gives local communities more control over housing and planning decisions.	The DP27 and the SEA Environmental Report will be subject to public consultation.
HM Government (2006) The Environmental Noise (England) Regulations 2006	

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
These regulations aim to assess and manage environmental noise through the creation of noise maps and the development of action plans, particularly in urban areas, major roads, railways, and airports. They place responsibilities on public authorities to reduce harmful noise exposure and inform the public about environmental noise levels.	The SEA should take into account potential effects of noise on population and human health.
HM Government (2010) The Air Quality Standards Regulations 2010	
These regulations set legally binding limits and targets for key air pollutants such as nitrogen dioxide, sulphur dioxide, ozone, and particulate matter. They require regular monitoring, assessment, and reporting by competent authorities to ensure public health and environmental protection.	The DP27 should seek to ensure that air quality, climate change and human health are not adversely affected by the actions set out in the plan. The SEA should include guide questions relating to the effects of actions on human health and the environment due to changes in air quality.
HM Government (2009) The Flood Risk Regulations 2009	
These regulations require authorities to assess flood risk, prepare flood hazard and risk maps, and develop flood risk management plans for areas at significant risk. The aim is to reduce the adverse consequences of flooding for human health, the environment, cultural heritage, and economic activity.	The SEA should consider how the DP27 may affect flood risk across the region.
HM Government (2019) Marine Strategy	
This strategy establishes revised objectives, targets, and indicators for achieving Good Environmental Status (GES). Building upon the 2012 strategy, it incorporates new scientific evidence and addresses emerging environmental challenges, such as marine litter and underwater noise. The strategy reflects the UK's commitment to sustainable marine management and aligns with international obligations, including those under the OSPAR Convention.	The SEA should seek to protect the marine environment.
HM Government (2011) UK Marine Policy Statement	
The Marine Policy Statement (MPS) sets out the framework for preparing Marine Plans and taking decisions affecting the marine environment, supporting the delivery of the following high-level marine objectives: • Achieving a sustainable marine economy; • Ensuring a strong, healthy and just society; • Living within environmental limits; • Promoting good governance;	The DP27 should take into account its effects on coastal areas. The SEA assessment should take into account the effects of the actions on the coast/marine environment where relevant.

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
- Using sound science responsibly. - Does not contain any targets.	
HM Government (2013) The Bathing Water Regulations 2013	
These regulations establish standards for monitoring and classifying the quality of designated bathing waters—coastal and inland sites where large numbers of people are expected to bathe. The Environment Agency (EA) in England and Natural Resources Wales (NRW) in Wales are responsible for monitoring these sites during the bathing season. Water quality is assessed based on levels of intestinal enterococci and Escherichia coli (E. coli), with classifications ranging from 'excellent' to 'poor'.	The DP27 should consider the Regulations. The SEA should take into account potential effects of the actions on bathing water quality
HM Government (2015) Infrastructure Act 2015	
The Infrastructure Act (inter alia) gives environmental authorities new powers to require landowners to take action on INNS or permit others to enter the land and carry out those operations.	The SEA assessment framework should include guide questions relating to INNS.
HM Government (2015) The Nitrate Pollution Prevention Regulations 2015	
These regulations consolidate and revoke previous regulations on Nitrate Pollution Prevention (namely the 2008 Nitrate Pollution Prevention Regulations and subsequent amendments). The continue to provide for the implementation of EU Directive 91/676/EEC on the protection of waters against pollution by nitrates from agricultural sources, and Decision 2009/431/EC granting a derogation under that directive, in England. The regulations: provide for the designation of land as nitrate vulnerable zones; impose annual limits on the quantity of nitrogen from organic manure that may be applied or spread in a holding in a nitrate vulnerable zone; establish requirements relating to the amount of nitrogen to be spread on a crop, and requires an occupier to plan in advance how much nitrogen fertiliser will be spread; require an occupier to provide a risk map of the holding; impose conditions on the spreading of nitrogen fertiliser; establish closed periods during which the spreading of nitrogen fertiliser is prohibited; and, makes provision for requirements for storage of nitrogen fertiliser and the keeping of records.	The DP27 should have regard to the requirements of the regulations. The DP27 and the SEA should consider potential effects of DP27 plan actions on Nitrate Vulnerable Zones.
HM Government (2015) Ozone-Depleting Substances Regulations 2015	
The 2015 ODS Regulations implementation of EU Ozone Depleting Substances Regulations (1005/2009). The principle objective is to phase out and control remaining uses of ozone depleting substances (ODS). ODSs commonly include chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs) and halons, which were typically used as refrigerants, air-conditioning systems, and fire-fighting equipment. The Regulations place controls and phase-out dates on the Manufacture and supply of ODSs. The Regulations also require ODSs to	The DP27 should have regard to the requirements of the regulations. The SEA assessment framework should include emissions to air.

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
be removed from refrigeration equipment before such appliances are scrapped. The Regulations specify minimum qualifications for those working on the recovery, recycling, reclamation or destruction of ODS.	
HM Government (2009) The Aquatic Animal Health (England and Wales) Regulations 2009	
These regulations provide animal health requirements for aquaculture animals and products. They establish a framework for setting health and certification standards and controlling the spread of aquatic animal diseases. The regulations also define enforcement powers and penalties to ensure compliance.	The SEA assessment framework should consider the protection aquatic animals.
HM Government (2010) The Marine Strategy Regulations 2010	
These regulations establish a framework for achieving or maintaining Good Environmental Status (GES) in UK marine waters. These regulations are crucial as they ensure that plans and programmes affecting the marine environment contribute to the protection and sustainable use of marine resources.	The SEA assessment framework should consider the achievement or maintenance of Good Environmental Status (GES) in UK marine waters
HM Government (2016) Environmental Permitting (England and Wales) Regulations 2016 (as amended 2018)	
Provides a system for environmental permits and exemptions for industrial activities, mobile plant, waste operations, mining waste operations, water discharge activities, groundwater activities and radioactive substances activities. It also sets out the powers, functions and duties of the regulators.	The DP27 should accord with these Regulations.
Natural England and the Environment Agency (2014) Protected Species and Development: Advice for Local Planning Authorities	
Provides local planning authorities (LPAs) with advice on assessing planning applications that may affect protected species. It outlines steps for LPAs to determine whether a development could harm or disturb protected species and emphasizes the need for appropriate surveys, mitigation measures, and, if necessary, obtaining a licence from Natural England. The guidance aims to ensure that LPAs make informed decisions that comply with legal obligations and contribute to the conservation of biodiversity.	The DP27 must fully comply with the Regulations. The impacts of the DP27 actions on biodiversity and protected species and sites must be considered as part of the SEA.
Natural England (2014) Site Improvement Plans (SIPs) for Natura 2000 Sites	
These plans were developed as part of the Improvement Programme for England's Natura 2000 Sites (IPENS), a strategic initiative aimed at enhancing the condition of England's Natura 2000 sites. These plans provide an overview of the issues affecting the conservation status of each site, outline priority actions required, and identify responsible parties and potential funding sources. The SIPs serve as dynamic documents, subject to updates based on new evidence and ongoing management activities. They play a crucial role in informing the River Basin Management Plans under the Water Framework Directive and contribute to the UK's Prioritised Action Framework for Natura 2000 sites	The SEA should seek to protect and enhance the National Sites Network.

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
Natural England and Environment Agency (various) River Restoration and Water Level Management Plans	
These plans aim to enhance and sustain the ecological health of rivers and floodplains. These plans focus on restoring natural hydrological processes and habitats, ensuring that water levels are managed to support biodiversity and ecosystem services. They also aim to achieve and maintain the favourable condition of Sites of Special Scientific Interest (SSSIs) and Special Areas of Conservation (SACs) by addressing physical modifications and promoting natural river dynamics.	The SEA should seek to protect and enhance the National Sites Network.
HM Government (2017) Conservation of Habitats and Species Regulations 2017 (as amended)	
These regulations consolidate all the various amendments made to the Conservation (Natural Habitats) Regulations 1994 in England and Wales. The regulations provide for the designation and protection of 'European sites', the protection of 'European species', and the adaptation of planning and other controls for the protection of European Sites. They are the principal means by which the Habitats Directive is transposed in England and Wales as such its main objective is to promote the maintenance of biodiversity.	The DP27 must fully comply with the Regulations. The impacts of the DP27 actions on biodiversity and protected species and sites must be considered as part of the SEA.
HM Government (2017, updated 2019) UK Clean Growth Strategy: Leading the way to a low carbon future	
This document affirms the UK's need to pursue de-carbonisation and provides information on how the UK is performing against its targets to become carbon neutral. The document highlights that continued emission reduction needs to continue in the fields of: • Power Sector; • Buildings; • Industry; • Natural Resources; • Transport; and, • Devolved Administrations.	The SEA should have an objective/guide questions relating to sustainable development that references the need to reduce carbon emissions across all sectors.
HM Government (2018) The Water Supply (Water Quality) Regulations 2018	
These regulations address the quality of water supplied by water undertakers, who supply areas mainly or wholly in England. The new Regulations implement Directive 98/83/EC on the quality of water intended for human consumption.	The DP27 should consider the Regulations. The SEA should take into account potential effects of the actions on drinking water quality

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
Under these Regulations, water undertakers are required to identify the areas that are to be water supply zones on an annual basis. A water supply zone cannot exceed 100,000 in terms of population before the beginning of each year of the supply. The standards of wholesomeness are set out, in respect of water for human consumption, be that through drinking, washing, food preparation or cooking and food production. In order to qualify as wholesome, the water cannot contain any: • micro-organism, other than those listed in the full text of Schedule 1 to the Regulations, or parasite; or • substances, other than those listed in the full text of Schedule 1 to the Regulations.	
HM Government (2019) the Invasive Alien species (Enforcement and Permitting) Order 2019	
This Order allows for the enforcement of the EU Invasive Alien Species Regulation 1143/2014 on the prevention and management of INNS in England and Wales, including the relevant licenses, permits and rules for keeping INNS.	The SEA should seek to address any potential issues or effects on existing measures to address INNS.
HM Government (2020) The Agriculture Act 2020	
The Bill provides the legislative framework for replacement agricultural support schemes to replace the European schemes after UK's exit from the EU and the EU's Common Agricultural Policy (CAP). The Bill provides powers to implement new approaches to farm payments and land management. In England, farmers will be paid to produce 'public goods' such as environmental or animal welfare improvements. The Bill also includes wider measures, including on improving fairness in the agricultural supply chain and on the operation of agricultural markets.	The DP27 should consider the implications of the act.
HM Government (2021) The Environment Act 2021	
The Act seeks to set legislation to improve air and water quality, tackle waste, increase recycling, halt the decline of species, and improve the natural environment. Amongst its provisions, The Act places a duty enshrined in law to ensure water companies secure a progressive reduction in the adverse impacts of discharges from storm overflows. New duties will also require the government to publish a plan to reduce sewage discharges from storm overflows by September 2022 and report to Parliament on the progress towards implementing the plan. The Environment Act also includes a legally binding target on species abundance for 2030, to help reverse declines of species like the hedgehog, red squirrel and water vole.	The DP27 should seek to protect and enhance the natural environment, taking into consideration the principals and guidance set out through the Environment Bill.
HM Government (2022) UK Climate Change Risk Assessment 2022	

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
This report outlines the UK government and devolved administrations' position on the key climate change risks and opportunities that the UK faces today. As required by the Climate Change Act 2008, the UK government has undertaken the third five-year assessment of the risks of climate change on the UK. This is based on the Independent Assessment of UK Climate Risk, the statutory advice provided by the Climate Change Committee (CCC), commissioned by the UK government and devolved administrations. The risk assessment considers sixty-one UK-wide climate risks and opportunities cutting across multiple sectors of the economy and prioritises eight risk areas for action in the next two years.	The DP27 and the SEA should take into consideration the climate risks identified by the assessment.
HM Government (2023) The Energy Act 2023	
The Energy Act provides a comprehensive new legislative regime for energy production, energy security and the regulation of the UK energy sector. The Act aims to deliver "a cleaner, more affordable and more secure energy system for the long term", having been described by the UK government as "the most significant piece of energy legislation in a generation".	The implementation of the DP27 may have an influence upon Anglian Water's total energy use. The SEA should seek to promote energy efficiency, as well as seeking to reduce the effects of climate change through greenhouse gas emissions. The SEA should also promote the use of renewable energy, where relevant.
HM Treasury (2015) Fixing the Foundations: creating a more prosperous nation.	
This document sets out a 15-point plan that the government will put into action to boost the UK's productivity growth, centred around two key pillars: encouraging long-term investment, and promoting a dynamic economy. It sets out the government's long term strategy for tackling the issues that matter most for productivity growth.	The DP27 should have regard to the points included in the plan
HM Government (2009) Marine and Coastal Areas Act	
The Act sets a framework for managing and protecting the marine and coastal environment. It establishes a UK Marine Policy Statement, a marine licensing regime, and provides powers for designating marine protected areas. The Act also includes duties related to a UK network of marine sites and enforcement powers.	The DP27 and the SEA should take into consideration the marine environment where applicable.
HM Treasury (2020) Natural Infrastructure Strategy	
This Strategy sets out the government's plans to deliver on their ambition for a radical improvement in the quality of the UK's infrastructure and to put the UK on the path to net zero emissions by 2050. The planned investment in the water and flood risk management sector is illustrated in light of the 25 Year Environmental Plan and the second National Adaptation Programme.	The decision-making process for determining which schemes should be prioritised in the DP27 should take this policy document into account.
JNCC on behalf of the Four Countries' Biodiversity Group (2024 UK Biodiversity Framework)	

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
The UK Biodiversity Framework (UKBF) sets out how the four UK nations will work together to implement the Kunming–Montreal Global Biodiversity Framework (GBF) agreed at COP15 in 2022. Developed by the Four Countries' Biodiversity Group (DAERA, Defra, Scottish Government, Welsh Government, with JNCC as secretariat), it replaces the previous Post-2010 UK Biodiversity Framework. The UKBF provides a shared strategic structure for coordinated action on biodiversity recovery, identifying where joint UK-wide approaches are required while allowing each nation to deliver its own domestic biodiversity strategies. Published in May 2024, it establishes the UK's collective response to global biodiversity commitments and supports delivery of national targets, nature recovery, and international reporting obligations.	The DP27 should support the protection and enhancement of biodiversity. The SEA assessment should include criteria relating to the protection of biodiversity, ecosystem recovery and avoid nature loss
National Infrastructure Commission (2018) Preparing for a Drier Future, England's Water Infrastructure Needs	
This paper sets out a range of measures that the NIC believe government, water companies and the regulator should take to increase investment in supply infrastructure and encourage more efficient use of water, with the aim to halve leakage by 2050, extend metering and develop plans for a national water network.	The DP27 should take these measures into account where possible and aim to improve water efficiency.
HM Government (2006) Natural Environment and Rural Communities Act, 2006	
This Act makes provision about bodies concerned with the natural environment and rural communities in connection with wildlife, sites of special scientific interest, National Parks and the Broads. The Natural Environment and Rural Communities Act has a general purpose to ensure the natural environment is conserved, enhanced and managed for the benefit of present and future generations, thereby contributing to sustainable development. Section 40 places a duty to conserve biodiversity on public authorities which may include enhancing, restoring or protecting a population or habitat. This duty extends to the list of species and habitats published in Section 41 of the Act and also applies to Local Wildlife Sites.	The SEA should seek to maintain or enhance the quality of habitats and biodiversity. The impacts of the DP27 on any designated features, as highlighted in the Natural Environment and Rural Communities Act, should be addressed.
HM Government (1975) Salmon and Freshwater Fisheries Act, 1975	
The Act lays down the present basic legal framework within which salmon and freshwater fisheries in England are regulated. Proposals have been made to extend the legislation to apply to more fish species e.g. coarse fish, eel and lamprey species. These proposals are currently under review. The Act covers legislation on fishing methods and related offences, obstructions to fish passage, salmon and freshwater fisheries administration and law enforcement. Proposed extensions to the legislation (under review) include the provision of fish passes and screening of water abstraction and discharge points for coarse fish, eel and lamprey species.	The Act Provides statutory requirements for maintaining fish passage. The SEA will cover fish passage as an element of at least one sustainability objective. The SEA should seek to address any potential issues or effects on existing measures to address fish passage.

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
HM Government (2015) The Environmental Damage (Prevention and Remediation) (England) Regulations 2015 These regulations amend the 2009 regulations and provide additional protection to habitats and species identified on Annexes 1 and 2 of the EC Habitats Directive (92/43/EEC), SSSIs and, in some cases, classified waterbodies from environmental damage where an operator has intended to cause damage or been negligent to the potential for damage. Applies to the most serious categories of environmental damage, including: • Contamination of land that results in a significant risk of adverse effects on human health • Adverse effects on surface water or groundwater consistent with a deterioration in the water's status • Adverse effects on the integrity of a Site of Special Scientific Interest (SSSI) or on the conservation status of species and habitats protected by EU legislation outside SSSIs.	The SEA should seek to ensure that the guidance provided by the regulations is considered when assessing the DP27.
HM Government (2009) The Eels (England and Wales) Regulations 2009 Implement European Council Regulations 1100/2007 establishing measures for the recovery of the stock of European eel. The Regulations will help implement delivery Eel Management Plans. They address eel records and re-stocking, close season and reduction of fishing effort, passage of eels and entrainment. The key objective is to ensure that at least 40% of the potential production of silver eels returns to the sea to spawn. This will be achieved by reducing exploitation of all life-stages of the eel and restoration of their habitats.	The SEA should seek to maintain or enhance the quality of habitats and biodiversity, and take regard of protected species identified. This should include migratory fish species and their migratory passage.
Natural England (2016) A narrative for conserving freshwater and wetland habitats in England This narrative provides an overview of circumstances relating to the conservation of freshwater and wetland habitats in England, considering their ecological function, the natural and anthropogenic factors affecting them, the principles that should be applied to their management, and the respective roles of the main policy mechanisms involved in their conservation. It covers all running and standing water habitats, of whatever size, and terrestrial wetland habitats including bogs, fens, swamp and wet woodland.	The DP27 should consider the findings of the narrative relating to conservation. The SEA should note the impact of the DP27 on various habitats.
Natural England (2016) Conservation 21: Natural England's conservation strategy for the 21st century Conservation 21 sets out how Natural England will work to protect England's nature and landscapes for people to enjoy and for the services they provide, in support of Defra's ambitions for the environment.	The DP27 should take into account the contents of this strategy.
HM Government (2003) The Water Act 2003	

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
The Water Act 2003 is in three Parts, relating to water resources, regulation of the water industry and other provisions. The four broad aims of the Act are: • The sustainable use of water resources • Strengthening the voice of consumers • A measured increase in competition • The promotion of water conservation.	The implementation of the DP27 may have an effect through its role in maintaining supplies of water. The SEA should seek to promote sustainable use of water resources.
HM Government (2017) The Water Environment (Water Framework Directive) (England and Wales) Regulations	
The Water Framework Directive (WFD) established a legal framework for managing the water environment across Europe. The requirements of this are set out in domestic law under these regulations. The overall aims are the sustainable use of water, preventing deterioration of water body status and the protection and improvement of inland surface waters, groundwater and transitional and coastal waters. River Basin Management Plans set out how these requirements will be delivered.	The SEA should seek to promote the protection and enhancement of all water resources. The SEA should seek to maintain, protect and improve water quality across the region and ensure efficient use of resources.
Natural England (2011) UK Geodiversity Action Plan (UKGAP)	
The UKGAP sets out of framework for geodiversity action across the UK. It provides a shared context and direction for the protection and enhancement of geodiversity through a common aim, themes, objectives and targets which link national, regional and local activities. The UKGAP consists of six broad themes: 1. Furthering our understanding of geodiversity 2. Influencing planning policy, legislation and development design 3. Gathering and maintaining information on our geodiversity 4. Conserving and managing our geodiversity 5. Inspiring people to value and care for our geodiversity 6. Sustaining resources for our geodiversity	The DP27 should have regard to the aims and objectives of the UKGAP. The SEA framework should consider effects of actions on geodiversity and outline enhancement and mitigation opportunities where these are identified.
National Park Authorities Management Plans (various)	
National Park Management Plans in the UK aim to conserve and enhance the natural beauty, wildlife, and cultural heritage of protected landscapes. These plans promote public enjoyment and understanding while supporting sustainable development within local communities.	The SEA should consider the effects of actions on landscapes, including National Parks.
Ofwat (2016) Water 2020	

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
This document sets out Ofwat's decisions on the design of its water and wastewater services regulatory framework in England and Wales. The approach aims to deliver the following benefits: • Greater customer engagement and understanding • A sustainable investment model and a fair balance of risk and reward • Choice where possible, and ensuring markets are effective for customers • A focus on the long-term, targeted and risk-based • Support for sustainable improvements in the environment.	The DP27 should take account of the regulatory framework. The SEA assessment should include criteria relating to the provision of water to customers and environmental protection.
Ofwat (2017) Resilience in the Round	
The report identifies that the water sector has historically invested in options which enhance capacity, especially operational capacity and that whilst additional capacity has an important role in delivering resilience against some threats, companies should start looking at a wider set of factors in order to deliver “smarter” options for the future, including: • Addressing multiple threats through a single intervention. For example, enhancing network connectivity to reduce the number of customers reliant on a single source of supply. This type of approach can provide water supply resilience to multiple threats such as outages, drought and contamination. • Recognising that any intervention will have its own embedded vulnerabilities to future threats. Understanding the vulnerabilities of option types will be critical to planning respective roles in delivering the planned level of resilience. For example, water transfers between areas of surplus and deficit can be a good option but might be vulnerable to wider scale drought impacts and/or contamination.	The DP27 should consider the content of the report.
UKCIP (2018) UK Climate Projections UKCP18	
The UKCP18 Projections provide a basis for studies of impacts and vulnerability and decisions on adaptation to climate change in the UK over the 21st century. Projections are given of changes to climate, and of changes in the marine and coastal environment; recent trends in observed climate are also discussed. The methodology gives a measure of the uncertainty in the range of possible outcomes; a major advance beyond previous national scenarios. The Projections will allow planners and decision-makers to make adaptations to climate change. In order to do so they need as much good information as possible on how climate change will evolve. They are one part of a	The DP27 does take account of UKCP18 projections as its formulation through the DP27 process which takes account of climate change in its supply and demand projections. The SEA should also use UKCP18 projections in the broader assessment of climate change effects and any potential cumulative effects. For example, the ecological requirements of aquatic habitats that may be affected by the DP27 will also be influenced by climate change.

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
UK government programme of work to put in place a new statutory framework on, and provide practical support for, adaptation.	
UKTAG: Phase 3 Review of Environmental Standards	
UKTAG prepares technical guidance designed to facilitate consistent implementation of the WFD in the UK. This report identifies standards for certain chemicals known as specific pollutants, developments in assessments of risk to groundwater, non-native species, standards for flows in rivers, standards for levels in lakes, standards for acidity in rivers and standards in intermittent discharges.	The SEA should seek to ensure that the guidance provided by the plan are considered when assessing the DP27, especially with respect to objectives relating to ecology, water quality and water quantity. The SEA should also ensure the guidance in the plan is used in relation to other related regulations for example the Habitats Directive. The guidance could contribute to the formulation of any criteria for assessing significance of effects.
Waterwise (2017) Water Efficiency Strategy for the UK	
The document sets out a strategy for achieving the vision of a water efficient UK. It suggests policy, regulatory and practical actions that can help in the process of achieving water efficiency.	The DP27 should take into account their possible impacts on water efficiency and aim to improve water efficiency. The SEA objectives should reflect the need improve water efficiency
Water UK (2022) Water 2050 – A White Paper	
Water UK has developed this White Paper on behalf of 16 water companies that operate in England. This White Paper describes: • Future challenges, opportunities and gaps and the priority areas for change • Our Vision for 2050 • Why and what we need to change: Delivering more environmental impact more efficiently • Why and what we need to change: Protecting long-term customer interests through the right investments at the right time • How we will make the change happen	The DP27 should have regard to the water White Paper.
Canal & River Trust (2015) <i>North East Waterway Fisheries & Angling Action Plan</i>	
The action plan sets out several issues of importance to the local angling communities across the North East. Addressing these issues aims to improve the angling experience, fish stocks and the water environment. The actions are grouped under 10 themes, which include: • Develop & improve access to the fishery. • Fish passage and migration.	The DP27 should seek to avoid harm to fisheries. The SEA assessment framework should include the protection or enhancement of factors affecting fisheries.

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
- Predation & non native species - Fisheries and water quality and quantity.	
Canal & River Trust (2015) South East Waterway Fisheries & Angling Action Plan (2015)	
The plans identified the key fisheries and angling issues that need to be addressed: Retaining existing angling customers and attracting new ones, developing and improving access to the fishery, opportunities to engage with local communities, taking advantage of the opportunities for volunteering and adoptions, improving communication between them and their customers, funding, fish passage and migration, predation and non-native species, fish stocks and fisheries management, fisheries and water quality and quantity	The DP27 should seek to avoid harm to fisheries. The SEA assessment framework should include the protection or enhancement of factors affecting fisheries.
Historic England (2023) Heritage at Risk	
Historic England's Heritage at Risk registers aim to reduce the risk to heritage assets. In order to achieve this aim HE are working to: - Better understand the nature and extent of risk - Encourage others to save and re-use heritage at risk - Build the capacity of the sector to deliver solutions for heritage at risk - Provide advice and grants to help remove heritage from the register	It is unlikely the DP27 will have an effect on the Heritage at Risk Register
Water UK (2016) Water Resources Long-term Planning Framework (2015 – 2065)	
This framework provides a strategic assessment of future water supply and demand across England and Wales. It highlights increasing risks of severe droughts due to climate change, population growth, and environmental pressures, emphasising the need for both demand management and new infrastructure. Recommendations include enhancing water efficiency, reducing leakage, and investing in reservoirs, water transfers, and reuse schemes to ensure long-term resilience.	Both the DP27 and SEA should be aligned with this framework
Water Company (various) Drought Plans adjacent to supply area	
This looks at the management of water resources to maintain service to customers during drought in the surrounding areas. The plans considered include; - Severn Trent Drought Plan 2022-2027 - Cambridge Water Drought Plan 2022	Assessment of the potential for cumulative impacts of supply and drought permit actions with drought actions listed in neighbouring water companies' DPs will be undertaken. The assessments should be reviewed at the time of drought action implementation to ensure that no changes to the neighbouring water

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
- Essex and Suffolk Drought Plan 2022 - Affinity Water Drought Management Plan 2023 - Thames Water Draft Drought Plan 2022 - Yorkshire Water Drought Plan 2022 - Northumbrian Water Drought Plan 2022	company drought action have been made in the intervening period, and that the assessment, therefore, remains valid.
Water Resources Management Plans from adjacent water companies	
These set out the plans to manage water resources by companies in adjacent areas, including: - Severn Trent Revised Draft Water Resources Management Plan 2024 - Cambridge Water Draft Water Resources Management Plan 2024 - Essex and Suffolk Draft Water Resources Management Plan 2024 - Affinity Water Draft Water Resources Management Plan 2024 - Thames Water Draft Water Resources Management Plan 2024 - Yorkshire Water Draft Water Resources Management Plan 2024 - Northumbrian Water Draft Water Resources Management Plan 2024 - Water Resources East (WRE) Regional Water Resources Plan (2023) - Water Resources West (WRW) Draft Regional Plan (2022) - Water Resources South East (WRSE) Revised Draft Regional Plan (2023) - Water Resources North (WReN) Draft Regional Plan (2022)	The DP27 should not conflict with the other water company operations especially drought actions that may be operated simultaneously.
Regional	
Anglian Region River Basin Management Plan: updated (2022)	
The purpose of a river basin management plan is to provide a framework for protecting and enhancing the benefits provided by the water environment. The plan describes the challenges that threaten the water environment and how these challenges can be managed. To achieve this, and because water and land resources are closely linked, it also informs decisions on land-use planning. It sets out the: - Current state of the water environment - Pressures affecting the water environment	The DP27 will need to ensure that it is consistent with the principles of the River Basin Management Plan and that it does not adversely affect the issues identified as significant water management issues.

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
- Environmental objectives for protecting and improving the waters - Programme of measures, actions needed to achieve the objectives - Progress since the 2015 Plan	
Anglian Water's Water Resources Management Plan 2024 (2024)	
The 2024 WRMP sets out Anglian Water's 25-year (2025-2050) strategy for managing supply and demand. The document recognises that the supply demand balance is under significant pressure. Anglian Water plan to continue using a twin-track approach, updated from the WRMP19 approach, to mitigate supply-demand risk which meets short-term needs but is also flexible enough for the future.	The DP27 will take into account the objectives of Anglian Water's WRMP24.
The Broads Plan 2022 – 2027, Broads Authority	
The Broads Plan 2022 – 2027 aims to provide a long-term vision and guide the management actions for benefit of the natural and cultural environmental, local communities and visitors. It covers the period 2022-2027, is the key management plan for the Broads and is updated every five to seven years. The Broads Plan 2022 – 2027 has six key themes which integrate environmental, economic, social, and cultural concerns. One such theme is concerned with managing water resources and flood risk.	There may be some social, economic and environment effects associated with the implementation of the DP27 that may have effect upon the sustainable development and regeneration of The Broads. The SEA should seek to address the potential social, economic and environmental effects.
Local Geodiversity Action Plans (LGAPs)	
These are strategic frameworks developed to protect and promote important geological sites within local areas. They focus on conserving geodiversity, raising public awareness, and integrating geological features into local planning. LGAPs encourage collaboration between authorities, conservation groups, and communities to safeguard geological heritage.	The DP27 should have regard to these frameworks. The SEA framework should consider effects of actions on geodiversity and outline enhancement and mitigation opportunities where these are identified.
Management Plans for Areas of Outstanding Natural Beauty (AONB): Lincolnshire Wolds 2018-2023, Norfolk Coast 2019-2024, Dedham Vale 2021 – 2026	
Lincolnshire Wolds 2018-2023: Produced by the Lincolnshire Wolds Countryside Service the Plan sets out strategic objectives to ensure the consistency and continuity for the management of the area over time. Norfolk Coast 2019-2024: Outlines the background and strategic approach of the Norfolk Coast Partnership for managing the area. It sits alongside a separate action which will be reviewed annually. It highlights the qualities of the of the area, the pressures for change, the objectives, and policies, and how the objectives will be achieved. Dedham Vale 2021 – 2026: Sets out how a partnership of organisations (environmental, agricultural, business etc) seek of balance the need to the various whilst protecting the AONB. It outlines six strategic topics which	The SEA should consider the effects of actions on landscapes, including designated landscapes.

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
cover the key issues (the countryside, resident, and villages, enjoying the area, the river and its tributaries, climate change, and working together) and offer management objectives and policies for securing the vision of the area.	
Anglian Water Biodiversity Strategy 2015 – 2020 (Undated)	
The Biodiversity Strategy outlines how Anglian Water will conserve biodiversity across the East of England to meet their legal obligations whilst contributing to England's Biodiversity 2020 Strategy. It will also help Anglian Water achieve their 'A Flourishing Environment' Business Plan. The Strategy describes the key threats and challenges and highlights the work Anglian Water will do on their sites and across the region.	The DP27 may have an effect on Biodiversity Strategy objectives. The SEA should include objectives that take into account the objectives of the Biodiversity Strategy where relevant (e.g. conservation designation status).
Anglian Water Bioresources Strategy (2025 – 2050)	
Anglian Water's Bioresources Strategy outlines the company's ambitions to ensure safe, sustainable treatment of sewage, support the circular economy and net zero targets, embrace innovation and ensuring adaptability to change in light of emerging bioresources markets.	The DP27 may impact bioresources. The SEA will take this into consideration and will include objectives taking material use and assets into consideration.
Northamptonshire Biodiversity Action Plan (2015 – 2020)	
This is the third edition of the Plan and sets out the priorities for the most threatened and declining habitats in Northamptonshire. It included general as well as habitat specific action plans and targets. It includes a Nature Improvement Area for the Nene Valley.	The DP27 may have an effect on BAP objectives. The SEA should include objectives that take into account the objectives of the BAP where relevant (e.g. conservation designation status).
Suffolk Biodiversity Action Plan and Planning (2012)	
The Plan covered forward plans including local planning documents, Shoreline Management Plans and Local Authority coastal defence planning and AONB. It was the first in England to develop an action plan dedicated to planning issues and the aim is provide clarity by collating all information on biodiversity in one place. There is no longer a UK BAP as this the strategy for the UK has been replaced by Biodiversity 2020, however the BAP is still enshrined in law through the NERC Act 2006 and in national planning policy.	The DP27 may have an effect on BAP objectives. The SEA should include objectives that take into account the objectives of the BAP where relevant (e.g. conservation designation status).
Suffolk Nature Strategy 2015	
The Suffolk Nature Strategy outlines the county's priorities, highlighting how Suffolk's landscapes and wildlife contribute to economic growth, health, and wellbeing. It addresses the challenges and opportunities facing the natural environment. The strategy's priorities focus on protecting the natural environment, which in turn benefits both the local economy and the wellbeing of the people in Suffolk.	The DP27 may have an effect on the priorities of the Strategy. The SEA should include objectives that take into account the priorities and priorities of the strategy where relevant.
Northumbrian Water Group (NWG) Environment Strategy (2015)	

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
This strategy sets the Group's direction for the future – to achieve our environmental ambition of restoring and regenerating the natural environment, creating a better place. The strategy includes 5 priority areas including water management, improving water bodies, effective climate action, thriving nature and communities and eliminating waste.	The DP27 may have an effect on the Environment Strategy priorities. The SEA should include objectives that take into account the objectives of the Environment Strategy where relevant (e.g. conservation designation status, climate change, waste reduction etc.).
South Staffs (incorporating Cambridge Water) Long Term Strategy to 2050	
This strategy provides South Staffs long-term vision to 2050 of demonstrating value to customers and society, and South Staffs' commitment to protecting and enhancing the environment. It covers the themes of ending water poverty, protecting and enhancing the environment, adapting to a changing climate, meeting the needs of a growing population and remaining financeable over the long term.	The DP27 may have an effect on the strategy's priorities. The SEA should include objectives that take into account the objectives of the strategy where relevant (e.g. conservation designation status, climate change, population etc.).
Affinity Water Strategic Direction Statement 2025–2050	
This statement outlines Affinity Water's long-term goals for 2050, addressing challenges such as climate change and population growth, while highlighting opportunities for society and the broader water sector to generate value. It presents key ambition statements aimed at fulfilling Affinity Water's purpose of providing high-quality drinking water and safeguarding the environment for current and future generations. The statement emphasises four key areas: the environment, resilience, customers, and communities.	The DP27 may have an effect on the Strategic Direction Statement priorities of the environment, resilience, customers, and communities. The SEA should include objectives that take these priorities into account where relevant (e.g. conservation designation status, climate change, population etc.).
Severn Trent Biodiversity Strategy and Action Plan	
This strategy and plan outline the comprehensive actions Severn Trent will undertake to play a pivotal role in addressing the nature emergency. It begins with the company's core responsibility of protecting habitats and species. However, the approach extends beyond this, incorporating changes to Severn Trent's business operations to drive nature recovery at a landscape scale throughout its region. Through these initiatives, Severn Trent aims to make a significant and lasting contribution to the restoration of nature.	The DP27 may have an effect on the on the Biodiversity Strategy and Action Plan's priorities of reducing impact to the environment and protecting and enhancing biodiversity. The SEA should include objectives that take these priorities into account where relevant (e.g. conservation designation status, climate change etc.).
Yorkshire Water Long Term Strategy 2025-2050	
This strategy defines how Yorkshire Water's vision will be realised, focusing on achieving long-term performance outcomes that benefit both customers and the environment. It provides a framework for navigating the challenges and seizing the opportunities that lie ahead, emphasising the importance of a healthy natural environment, reducing emissions, and ensuring the delivery of safe and reliable water to customers.	The DP27 may have an effect on the strategy's priorities. The SEA should include objectives that consider the objectives of the strategy where relevant (e.g. conservation designation status, climate change, population etc.).
Thames Water Long Term Strategy to 2050	

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
This strategy outlines how Thames Water will fulfil its purpose of delivering life's essential services, ensuring that customers, communities, and the environment can thrive. The long-term vision for 2050 is framed around three key pillars: For Customers, For Communities, and For the Environment. Each pillar represents a core area of focus, guiding Thames Water's efforts to provide reliable, high-quality services while fostering positive, sustainable impacts. Through this approach, the strategy aims to drive meaningful progress that benefits individuals, supports local communities, and protects and enhances the natural environment for future generations.	The DP27 may have an effect on the strategy's priorities. The SEA should include objectives that consider the objectives of the strategy where relevant (e.g. conservation designation status, climate change, population, waste management etc.).
Water Resources East (WRE) Regional Water Resources Plan (2023)	
This is Eastern England's first Water Resources Plan. The plan outlines current and future water needs across various sectors in the region, considering factors like housing and economic growth. It forecasts available water supply, accounting for climate change, drought resilience, and reduced abstraction to protect the environment. The plan identifies cost-effective solutions to address supply-demand gaps for public water, while maximising co-benefits for other sectors and the environment. It also details ongoing and proposed catchment-scale efforts to assess and meet the water needs of sectors such as agriculture, power generation, and navigation.	The DP27 may have an effect on the plan's priorities. The SEA should include objectives that consider the objectives of the strategy where relevant (e.g. conservation designation status, climate change, population, waste management etc.).
Water Resources West (WRW) Draft Regional Plan (2022)	
This plan outlines WRW's strategy to ensure sustainable water supplies for the future. Key components include maintaining the sustainability of current and future supplies, reducing leakage, and helping customers manage demand. The plan also focuses on developing new water sources and transfer systems. Together, these measures aim to address growing demand and environmental challenges. The strategy provides a long-term approach to securing reliable water resources for the region.	The DP27 may have an effect on the plan's priorities. The SEA should include objectives that consider the objectives of the strategy where relevant (e.g. conservation designation status, climate change, population, waste management etc.).
Water Resources South East (WRSE) Revised Draft Regional Plan (2023)	
This plan outlines a forward-looking investment programme to secure water supplies in the water-stressed South East. It includes new sources and an expanded network of water transfers, along with efforts to significantly reduce leaks and encourage lower customer consumption. The plan is critical to addressing a potential shortfall water needed per day by 2075. It takes into account the impacts of climate change and population growth while enhancing resilience to drought.	The DP27 may have an effect on the plan's priorities. The SEA should include objectives that consider the objectives of the strategy where relevant (e.g. conservation designation status, climate change, population, waste management etc.).
Water Resources North (WreN) Draft Regional Plan (2022)	
The plan outlines the region's water needs, considering factors such as growth, climate change, and environmental goals, while presenting the best value plan. Key drivers of the plan include enhancing drought resilience, improving environmental sustainability, reducing long-term water usage and leakage, minimising	The DP27 may have an effect on the plan's priorities. The SEA should include objectives that consider the objectives of the strategy where relevant (e.g. conservation designation status, climate change, population, waste management etc.).

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
the need for drought permits and orders, and increasing water supplies. These actions are aimed at ensuring a reliable and sustainable water future for the region.	
The Nene Catchment CAMs Strategy, Environmental Agency (2013)	
The Catchment Abstraction Management Strategy (CAMS) set out how the Environmental Agency will manage water abstraction and contribute to the Water Framework Directive (WFD). It outlines where water is available, and if relevant, where the Environment Agency needs to reduce current rates of abstraction. It also provides an overview of the catchment area and characteristics, including abstractions, geology, hydrology, hydrometry, water quality and discharges, ecology and conservation, recreation, and navigation. The CAMS make information on water resources and licensing practice publicly available and allow the balance between the needs of abstractors, other water users and the aquatic environment to be considered in consultation with the local community and interested parties.	The DP27 operation may have the potential to affect several of the CAMs objectives. The SEA will include objectives that take into account the objectives of the CAMs where relevant.
Environment Agency (various) Abstraction Licensing Strategies (Catchment Abstraction Management Strategies (CAMS)) Essex (2017), Cam and Ely Ouse (2020) and North-West Norfolk (2017)	
The strategy sets out the Environmental Agency's approach to managing new and existing abstraction and impoundment within the Essex, and the Cam and Ely Ouse, catchment in the Anglian river basin district. It provides information about where water is available for further abstraction and also indicates how reliable a new abstraction license may be. It provides an overview of assessment points, groundwater, level dependent environments, heavily modified water bodies, protected areas, and supported rivers.	The DP27 operation may have the potential to affect several of the Abstraction Licensing Strategies objectives. The SEA will include objectives that take into account the objectives of the Abstraction Licensing Strategies where relevant.
Natural England (2022) European Site Conservation Objectives: Supplementary advice on conserving and restoring site features (River Wensum, Portholme, Ouse Washes, The Wash & North Norfolk Coast, Orton Pit, Nene Washes, Barnack Hills & Holes, Breckland and Norfolk Valley Fens and Buxton heath)	
The supplementary advice documents provide detailed guidance to support the conservation and recovery of protected site features. It complements the core conservation objectives by offering practical information tailored to individual European sites. The document outlines ecological requirements, management considerations, and potential pressures or threats to the integrity of site features.	The DP27 and SEA need to take account of the guidance provided by Natural England
Draft Drought Management in England, Environmental Agency (2024)	
This framework sets out how drought affects England and how the Environmental Agency intends to work with the government, water companies and others to ensure the effects on people, business and the environment are management. It also covers the triggers and the actions they, and others take to manage drought, how drought is monitored and how they intend to report on drought.	The DP27 and SEA need to take account of the guidance provided by the Environment Agency
Cambridge Water Final Drought Plan (2022)	

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
This provides an update to the 2018 iteration. It sets out how they will response to periods of extended dry weather and demonstrates how they will monitor and manage these drought event as well as the actions they will take. They intend to use a variety of drought management interventions on both the supply and demand-side in order to ensure continued supply for customers. Updates have included amending supply-side options to reflect current operation conditions and status of source works. In order to incorporate the latest guidance, the monitoring and environmental assessment of the supply options have been developed. Demand actions have mainly remained unchanged, although they have updated the communication section to align with company changes.	Assessment of the potential for cumulative impacts of supply-side and drought permit actions with drought actions listed in neighbouring water companies' DPs will be undertaken. The assessments should be reviewed at the time of drought action implementation to ensure that no changes to the neighbouring water company drought action have been made in the intervening period, and that the assessment, therefore, remains valid.
Affinity Water Drought Management Plan (2023)	
Affinity Water has prepared the Drought Plan to outline their approach to respond to a drought and the steps that would be taken as the situation develops. They have established triggers to signal when action is needed and have identified actions to help support supplies during periods of low availability.	Assessment of the potential for cumulative impacts of supply-side and drought permit/order actions with drought actions listed in neighbouring water companies' DPs will be undertaken. The assessments should be reviewed at the time of drought plan action implementation to ensure that no changes to the neighbouring water company drought action have been made in the intervening period, and that the assessment, therefore, remains valid.
Northumbrian Water Drought Plan (2022)	
The Northumbrian Water DP22 builds on the previous Drought Plan 2018. It outlines how Northumbrian Water plans to manage a future drought, including the trigger levels that indicate when action is necessary and the measures available to maintain supplies when service levels are at risk. Additionally, the plan details how the impacts of a drought and the associated actions will be communicated to customers, while also considering the need for ongoing monitoring to evaluate the effectiveness of drought actions.	Assessment of the potential for cumulative impacts of supply-side and drought permit/order actions with drought actions listed in neighbouring water companies' DPs will be undertaken. The assessments should be reviewed at the time of drought plan implementation to ensure that no changes to the neighbouring water company drought actions have been made in the intervening period, and that the assessment, therefore, remains valid.
Essex and Suffolk Water Drought Plan (2022)	
Essex and Suffolk Water, a trading division of Northumbrian Water Limited, has prepared the Drought Plan to identify how they intend to manage a future drought. They have identified triggers to highlight when action is required and have identified measure available to support supplies when they may be low.	Assessment of the potential for cumulative impacts of supply-side and drought permit/order actions with drought actions listed in neighbouring water companies' DPs will be undertaken. The assessments should be reviewed at the time of drought action implementation to ensure that no changes to the neighbouring

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
	water company drought action have been made in the intervening period, and that the assessment, therefore, remains valid
Severn Water Drought Plan (2022)	
An update to the 2019 iteration, Severn Water cover 2022-2027 and explain how they will manage supply and demand during a drought in their region. They are confident that their plan represents a good balance between cost, environment, and resilience to severe droughts. Their stochastic drought modelling indicates that we are resilient to a 1 in 200-year drought without the need for emergency drought orders.	Assessment of the potential for cumulative impacts of supply-side and drought permit/order actions with drought actions listed in neighbouring water companies' DPs will be undertaken. The assessments should be reviewed at the time of drought action implementation to ensure that no changes to the neighbouring water company drought action have been made in the intervening period, and that the assessment, therefore, remains valid
Thames Water Drought Plan 2022	
The DP22 outlines how Thames Water will react to a period of drought and develops a plan for action to achieve increased protection against more severe droughts. It shows Thames Water can meet with the existing asset base: • Its planned levels of service, for the twentieth century droughts in the historic record • A range of more severe drought scenarios, although with less resilience	Assessment of the potential for cumulative impacts of supply-side and drought permit/order actions with drought actions listed in neighbouring water companies' DPs will be undertaken. The assessments should be reviewed at the time of drought action implementation to ensure that no changes to the neighbouring water company drought action have been made in the intervening period, and that the assessment, therefore, remains valid.
Yorkshire Water Final Drought Plan 2022	
Yorkshire Water set out how they would manage resource, mitigate risk, and communicate with customer during a drought. They intend to implement a range of drought management actions covering customer management, distribution management and resource management.	Assessment of the potential for cumulative impacts of supply-side and drought permit/order actions with drought actions listed in neighbouring water companies' DPs will be undertaken. The assessments should be reviewed at the time of drought action implementation to ensure that no changes to the neighbouring water company drought action have been made in the intervening period, and that the assessment, therefore, remains valid
Essex Green Infrastructure Strategy Infrastructure Strategy (2020)	
The strategy aims to create, improve, and maintain a high-quality, interconnected green infrastructure network that in Essex that links city centres, urban areas, the countryside, and the coast. This network should be self-sustaining and designed to benefit both people and wildlife.	Actions in the DP27 have potential to cause social, economic and environmental impacts.

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
	The SEA assessment framework should consider the effects of the DP27 on the achievement of the strategy's key priorities and the effects on water management, natural capital, landscape and biodiversity.
Northampton Green Infrastructure Plan	
The Plan aims to provide the most important step towards Northampton's planning and delivery of green infrastructure. The River Nene is specified as a Green Corridor amongst the different types of green infrastructure.	Actions in the DP27 have potential to cause social, economic and environmental impacts. The SEA assessment framework should consider the effects of the DP27 on the achievement of the strategy's key priorities and the effects on water management, natural capital, landscape and biodiversity.
Greater Norwich Green Infrastructure Study (2022)	
This study is a desk-based analysis which offers details on the current Green Infrastructure (GI), biodiversity, and designated historic environment features within the proposed development areas of the Greater Norwich Local Plan (GNLP). It also highlights opportunities for improving GI based on available data.	Actions in the DP27 have potential to cause social, economic and environmental impacts. The SEA assessment framework should consider the effects of the DP27 on the achievement of the strategy's key priorities and the effects on water management, natural capital, landscape and biodiversity.
Greater Norwich Green Infrastructure Strategy (2025)	
The Strategy provides a framework for guiding, protecting and enhancing green and blue infrastructure across Greater Norwich to support sustainable growth, nature recovery, climate resilience and community wellbeing. Its objectives include identifying the most suitable types, locations and scales of green infrastructure, improving biodiversity, supporting healthier and more active communities, strengthening climate-resilient landscapes and ensuring green infrastructure is integrated into planning and development decisions.	The Drought Plan should consider how drought measures may affect green infrastructure, habitats and landscape resilience, ensuring options do not undermine nature recovery or public access to green spaces. The SEA should assess effects on biodiversity, climate adaptation, and environmental quality, ensuring drought actions support resilient ecosystems and align with green-infrastructure priorities.
Peterborough Green Infrastructure and Biodiversity Supplementary Planning Document	
Adopted in 2019, this plan outlines a vision for protecting and improving Peterborough's green infrastructure and biodiversity over the next 20 years. It aims to increase the recognition of the natural environment's value, ensuring it is considered in key decisions by all stakeholders involved in the city's sustainable development.	Actions in the DP27 have potential to cause social, economic and environmental impacts. The SEA assessment framework should consider the effects of the DP27 on the achievement of the strategy's key priorities and the

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
	effects on water management, natural capital, landscape and biodiversity.
National Character Areas (NCAs): 92 Rockingham Forest (NE538); 85 The Brecks (NE385); 78 Central North Norfolk (NE526); 48: Trent and Belvoir Vales (NE429); 89 Northamptonshire Vales (NE527); 88 Bedfordshire and Cambridgeshire Claylands (NE555); 86 South Suffolk and North Essex Claylands; and 111 Northern Thames Basin (NE466).	
92 Rockingham Forest (NE538) a broad, low, undulating ridge underlain by Jurassic limestone which falls away from a prominent, steep northern scarp overlooking the Welland Valley. 85 The Brecks (NE385) lies at the heart of East Anglia, occupying much of south-western Norfolk and north-western Suffolk, together with a small part of north-eastern Cambridgeshire. 78 Central North Norfolk (NE526) is a gently undulating rural landscape of the Central North Norfolk NCA and stretches from the slightly flatter, more open land of Mid Norfolk NCA, to the prominent glacial landform of the Cromer Ridge and the dynamic exposed coastline of coastal cliffs, where large storm events dramatically shape its character. 48: Trent and Belvoir Vales (NE429) is characterised by undulating, strongly rural and predominantly arable farmland, centred on the River Trent. A low-lying rural landscape with relatively little woodland cover, the NCA offers long, open views. 89 Northamptonshire Vales (NE527) consists of a series of low-lying clay vales and river valleys, including the valleys of the rivers Nene and Welland and their tributaries. The area is 10 per cent urban, and settlement is often visually dominant. 88 Bedfordshire and Cambridgeshire Claylands (NE555) is a broad, gently undulating, lowland plateau dissected by shallow river valleys that gradually widen as they approach The Fens NCA in the east. Within it, but distinct from it, is the Bedfordshire Greensand Ridge, a contrasting narrow and elevated outcrop of Greensand, with its associated habitats on acidic soils such as grassland, heathland and woodland. 86 South Suffolk and North Essex Claylands covers the four counties of Suffolk, Essex, Hertfordshire and Cambridgeshire. It stretches from Bury St Edmunds in the north-west to Ipswich in the north-east, roughly following the line of the A14 trunk road through the Gipping Valley. 111 Northern Thames Basin (NE466) is a diverse area which extends from Hertfordshire in the west to the Essex coast in the east. It is separated from the North Sea and Thames Estuary by a narrow band of land that makes up the Greater Thames Estuary NCA.	The DP27 may have an effect on NCAs. The SEA should include objectives that take into account the objectives of the NCAs where relevant (e.g. manage and enhance existing habitats).
Flood Risk Management Plans (various)	
Flood Risk Management Plans (FRMPs) highlight the hazards and risks of flooding from rivers, the sea, surface water, groundwater and reservoirs, and set out how Risk Management Authorities (RMAs) work together with communities to manage flood risk.	The DP27 links to these plans where it affects flood risk or land management, for example through changes in abstraction or water

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
	storage. The SEA should consider how the DP27 may affect flood risk across the region.
Humber Estuary Coastal Authorities Group - Flamborough Head to Gibraltar Point SMP3	
This SMP covers the northern reaches of the Anglian Water region which includes the coastal along the Humber Estuary to Gibraltar Point. This is coastal frontage number three within the national shoreline management programme. The section of the Anglian Water region which is covered by this SMP predominately includes hold the line policy with some areas of managed realignment. The River Trent Drought Permit action zone of influence is covered within this SMP.	The SEA should take into account the effects of the DP27 on areas with a SMP.
The Wash Shoreline Management Plan 2 – Gibraltar Point to Old Hunstanton	
This is coastal frontage number four within the national shoreline management programme. The SMP has a mixture of hold the line, managed realigned and no active intervention across the four policy areas which it covers. The River Nene and River Great Ouse estuaries are covered within this SMP. There is also a separate action plan for The Wash SMP which summarises all the specific actions that are needed to implement the plan and the policies. This includes actions by the EA and local authorities to develop flood and erosion defence schemes.	The SEA should take into account the effects of the DP27 on areas with a SMP.
North Norfolk Shoreline Management Plan (2010)	
This is coastal frontage number five within the national shoreline management programme and covers the frontage from Old Hunstanton up to the end of the shingle ridge at Kelling Hard. It also includes a mixture of hold the line, management realignment and no active intervention across the three policy areas which it covers.	The SEA should take into account the effects of the DP27 on areas with a SMP.
Kelling to Lowestoft Ness Shoreline Management Plan (2012)	
Number six in the coastal frontage within the national shoreline management programme. This SMP covers the River Wensum: Costessey groundwater source zone of influence which has a hold the line policy.	The SEA should take into account the effects of the DP27 on areas with a SMP.
Essex and South Suffolk Shoreline Management Plan 2 (2010)	
This SMP is the eighth coastal frontage within the national shoreline management programme. The zone of influence for the River Gipping: Sproughton Intake action is covered within this SMP which a mixture of advance the line, hold the line, managed realignment and no active intervention. The River Colne Augmentation zone of influence is also covered within this SMP which predominately has hold the line policy with some management realigned and one area for no active intervention in the 2055-2100 epoch.	The SEA should take into account the effects of the DP27 on areas with a SMP.

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
Draft Lincolnshire Rights of Way Improvement Plan (RoWIP) 2014-2019	
The second RoWIP produced by the County Council provides a strategic framework for undertaking Public Rights of Way (PRoW) improvements and provides opportunities to attract external funding. It has identified three broad areas for improvement including: network improvements, improved customer service and social inclusion.	The DP27 operation may have the potential to affect the objectives of the RoWIPs. The SEA will include objectives that take into account the objectives of the RoWIPs where relevant.
North Lincolnshire Rights of Way Improvement Plan (RoWIP) 2021 - 2031	
This document outlines the Council's approach to enhancing the management and development of the Public Rights of Way network.	The DP27 operation may have the potential to affect the objectives of the RoWIPs. The SEA will include objectives that take into account the objectives of the ROWIPs where relevant.
Norfolk Access Improvement Plan (NAIP) 2019-2029	
The Plan sets out the County Council's aspirations for improving their network of local rights of way. It has an overarching goal to continuously review and improve efficient management of both Public Rights of Way (PRoW) and Access, as well as cycle tracks, and permissive access in Norfolk, promoting national and regional routes, and parish networks.	The DP27 operation may have the potential to affect the objectives of the RoWIPs. The SEA will include objectives that take into account the objectives of the RoWIPs where relevant.
Suffolk Green Access Strategy Rights of Way Improvement Plan (ROWIP) 2020-2030	
The Plan highlights Suffolk County Council's commitment to the network through a targeted maintenance and improvement programme that provides substantial benefits across the county. The key themes are as follows; managing green access infrastructure, improving green access infrastructure, promoting green access and developing healthy and sustainable communities	The DP27 operation may have the potential to affect the objectives of the RoWIPs. The SEA will include objectives that take into account the objectives of the RoWIPs where relevant.
Essex County Council Rights of Way Improvement Plan (2009)	
This outlines the future plans of the County Council to assist in the delivery of a better quality of life by ensuring the network meets the needs of residents and visitors. The objectives of the Plan have been identified across five themes including: environment, improved accessibility, safety, quality of life and good health, tourism and economy, and communities and partnerships.	The DP27 operation may have the potential to affect the objectives of the RoWIPs. The SEA will include objectives that take into account the objectives of the RoWIPs where relevant.
Cambridgeshire County Council Rights of Way Improvement Plan Update (2016)	
First adopted in 2006, the update provides a summary of progress since the publication of the Plan and sets out future for RoW to 2031. Their actions are grouped into eight categories: making the countryside more accessible; safer and health-enhancing activities; 72,500 new homes; knowing what's out there; filling the	The DP27 operation may have the potential to affect the objectives of the RoWIPs. The SEA will include objectives that take into account the objectives of the RoWIPs where relevant.

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
gaps; better land management; development of a definitive map and other resources; and a better countryside environment.	
Peterborough Rights of Way Improvement Plan 2016-2026	
This new RoWIP will outline a series of updated policies and measures that will lead to additional investment in local RoW. There are four key actions included in the RoWIP which are as follows: reducing the unnecessary physical barriers to the network, promotion of the countryside to residents and visitors; develop function and well maintained routes into the countryside; and help people improve their health through maintain circular routes.	The DP27 operation may have the potential to affect the objectives of the RoWIPs. The SEA will include objectives that take into account the objectives of the RoWIPs where relevant.
Northamptonshire County Council Rights of Way Improvement Plan 2020-2030	
The RoWIP was first published in 2007 and contained 38 outcomes which encompassed nine core actions. This document provides an update of the progress made against these actions which include: a safe and joined up network; making access easier for everyone; improve people's health and enjoyment; improve links between communities; improve signage; increase publicity and implementation; travel choices; and harnessing growth.	The DP27 operation may have the potential to affect the objectives of the RoWIPs. The SEA will include objectives that take into account the objectives of the ROWIPs where relevant.
England Coast Path: improving public access to the coast	
Natural England is working on developing the England Coast Path which is a new National Trail around all of England's coast. Work is ongoing at the time of writing. The England Coast Path is anticipated to be fully walkable by the end of 2024 – connecting communities around the English coast from Northumberland to Cumbria.	The DP27 should have regard to effects on coastal areas. The SEA should take into account the effects of the actions on coastal environments where relevant.
Local Planning Authority (various) Local Plans/Local Development Plans	
The Anglian Water SEA study includes a large number of Local Planning Authorities. Each these prepare Local Plans for the purposes of setting the framework for future development. They define the priorities for a particular area including; the strategic policies, land allocations, infrastructure requirements, housing needs, requirements for safeguarding the environment and measures for adapting to climate change.	The DP27 should take into account the Local Plans and emerging Local Plans. The SEA assessment framework should consider the effects of the DP27 on the achievement of the Plans' visions and the effects of actions on sustainable land use.
Historic Environment Records (various)	
Historic Environment Record (HER) databases linked to a Geographic Information System (GIS) are held by County Councils, District Councils or Unitary Authorities. They represent unique repositories of, and signposts	Presenting this wealth of information for the Anglian Water SEA study area would be difficult, however, it can be interrogated where the DP27 actions have the potential to affect such assets.

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
to, information relating to landscapes, buildings, sites and artefacts spanning from the Palaeolithic period to modern times.	
Greater Norwich Development Partnership- Water Cycle Study	
The objective of Water Cycle Studies are to provide an integrated approach to managing flood risk, water supply, and wastewater infrastructure in the Study Area, mindful of the environmental constraints. They intend to address the following key issues: • Location of development in relation to key water and wastewater infrastructure; • Capacity of existing infrastructure; • Additional impact on existing infrastructure; and • Major constraints	The DP27 should impact on the key issues outlined in the Water Cycle Study.
Anglian Water - Our net zero strategy to 2030 (2021)	
The Strategy sets out Anglian Water's plan to achieve net zero operational emissions by 2030. Net zero covers their operational activities (Scope 1, 2 and outsourced Scope 3 operations). They have also set a 70% capital carbon reduction target by 2030 from a 2010 baseline. The strategy is centred on the following which will contribute to achieving the reductions: • Maximising energy efficiency and renewable energy generation and storage • Procuring green electricity • Decarbonising our vehicle fleet • Maximising the value of our biogas • Managing our process emissions • Opting for alternative fuels • Developing our offsetting strategy	The DP27 may impact emissions and energy consumption. The SEA will take this into consideration and will include objectives taking material assets and air and climate into consideration.
Anglian Water Strategic Direction Statement 2020–2045 (2017)	
Anglian Water's Strategic Direction Statement sets out their future vision, looking ahead to 2045, and provides an update to the first Strategic Direction Statement they published in 2009 as part of the Price Review. It recognises the challenges faced (such as climate change, population and economic growth, and environmental protection) and provides an outline of the plans to deliver the outcomes they have committed to in the face of these challenges. The following long-term goals have been set: • Make the east of England resilient to the risks of drought and flooding	The DP27 may impact society, air and climate. The SEA will take these into consideration and will include objectives taking population, air and climate into consideration.

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
• Enable sustainable economic and housing growth in the UK's fastest growing region • Be a carbon neutral business by 2050 • Work with others to achieve significant improvement in ecological quality across their catchments	
Anglian Water Business Plan for 2020 to 2025 (2018)	
This plan covers the period between 2020-2050 and is framed by the Strategic Direction Statement. This plan responds to the specific challenges facing the region, the most noteworthy being rapid housing and economic growth and a changing climate. More than half a million interactions with stakeholders and customers made it clear that they want Anglian Water to invest now to continue the war on leaks; to enable sustainable growth; to increase resilience to drought and flood; and to enhance the natural environment.	The DP27 will take into account the objectives of Anglian Water Business Plan.
Anglian Water Business Plan (2025)	
This plan outlines the company's strategy for providing sustainable and efficient water services to its customers, with a strong focus on environmental responsibility and innovation. Additionally, it aims to meet growing demand for water while preserving resources and minimising environmental impact, supporting both local communities and broader environmental goals.	The DP27 will take into account the objectives of Anglian Water Business Plan.
Anglian Water Drainage and Wastewater Management Plan (DWMP) (2023)	
This is Anglian Water's first DWMP and builds on the Water Recycling Long Term Plan published in 2018. The DWMP covers the period 2025-2050 and sets out how Anglian Water will manage and recycle water in their region over this time period, understanding the pressures and challenges faced such as population growth and climate change. It sets out how wastewater systems and the drainage networks can be maintained, extended and improved to make sure they're robust and resilient to future pressures. There are three key themes of risks which are identified: escape from sewers, WRC capacity and environment and wellbeing.	The DP27 will take into account the objectives of Anglian Water's DWMP.
Anglian Water Long Term Delivery Strategy (2023)	
This strategy aims to align Anglian Water's current plans and strategies, such as the Water Resources Management Plan, the Drainage and Wastewater Management Plan, and the Long-Term Plan for Drinking Water Quality. The strategy represents Anglian Water's best value plan informed by customers and stakeholders.	The DP27 will take into account the vision and ambition of Anglian Water's Long Term Delivery Strategy.
Anglian Water Annual Performance Report 2022 (2023)	

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
The Report provides a number of key messages: Largest ever single year programme of capital investment completed on schedule: £577.7 million invested in the East of England in 2021/22 (31 March 2021: £447.0 million), including £109 million in abstraction reduction to protect chalk streams and rivers; £68.1 million for climate resilience schemes and £63.1 million to address population growth Accelerated £800 million environmental programme delivery well ahead of schedule £32 million of tailored support in 2021/22 to customers facing affordability Net zero carbon programme ahead of schedule: industry-leading 2030 net zero route map published as company leads the water sector at COP26 Flow to full treatment: Ofwat and the Environment Agency launched industry-wide investigations in 2021 into compliance with conditions of environmental permits. While the final outcome of these investigations isn't yet known, Anglian Water have provided comprehensive information to both regulators and continue to engage positively with them.	The DP27 will take into account Anglian Water's general environmental objectives.
Love Every Drop (undated) Love Every Drop is Anglian Water's strategy to put water at the heart of a whole new way of living. Taken together, the 12 ambitious business goals and the commitments and measures that underpin them form Anglian Water's sustainability roadmap. • The business goals are: • No accidents • No incidents • No pollutions • 100% of their customers very satisfied with their service • Frontier performer in the UK • Leading employer in their region • Effective management of the impact of growth and climate change in our region • Zero waste. Get it right first time, every time • Reduce operational carbon emissions by 10% in real terms by 2015 from 2010 baseline • Halve embodied carbon in new assets we build by 2015 from a 2010 baseline	The DP27 will take into account Anglian Water's goals and commitments.

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
Joint Norfolk and Suffolk County Council Natural Capital Assessment (2020) The Natural Capital Assessment for Norfolk and Suffolk is a local assessment of the natural assets across the two counties and identifies risks to them, particularly in the context of climate change. It also recommends seven priority themes for action: Water; Land Management; Green House Gases; Carbon Sequestration; Habitats; Bio-security and Resilience.	The DP27 should take into account the Natural Capital Assessment.
Local Nature Recovery Strategies (various, emerging) Local Nature Recovery Strategies (LNRSs) are a new, England-wide system of spatial strategies that will establish priorities and map proposals for specific actions to drive nature's recovery and provide wider environmental benefits. The requirement for there to be Local Natural Recovery Strategies, what they are and how they will generally work is outlined within the Environment Act 2021. The area covered by each Strategy Plan will be set out by Defra's Secretary of State who will be able to produce regulations on the process for preparing, publishing, reviewing and republication of a LNRS and any guidance on what they should contain.	The DP27 should take into account the Local Plans and emerging Local Plans. The SEA assessment framework should consider the effects of the DP27 on the achievement of the Plans' visions and the effects of actions on the environment.
Local Wildlife Trust Strategies (various) Local Trust Strategies are based on three key goals of the wildlife trust as a whole, nature in recovery, meaningful action and nature-based solutions.	The SEA assessment framework should consider the effects of the DP27 on the achievement of the Plans' visions and the effects of actions on nature.
Natural Capital Evidence Compendium for Norfolk and Suffolk (2020) This Compendium contains information surrounding Norfolk and Suffolk's land types, soil types, habitats and species, the quality of different water bodies, emissions and particulate information, and coastal and marine quality/stocks. It includes risks and the implications of them. The Compendium is in the form of a detailed 93 slide presentation. At the end it lists the impacts of the information in the presentation and follows up with a response in the form of priorities and next steps.	The SEA assessment framework should consider the effects of the DP27 on the achievement of the Plans' visions and the effects of actions on sustainable land use.
Local Transport Plans (various) The Local Transport Plan sets the Local Council's plans, policies and programmes on transport and transport infrastructure. • Cambridgeshire and Peterborough Combined Authority (CPCA) • Norfolk County Council • Durham • Essex County Council	The DP27 should take into account the Local Plans. The SEA assessment framework should consider the effects of the DP27 on the achievement of the Plans' visions and the effects of actions on local transport.

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
• Suffolk • Lincolnshire County Council • Nottingham County Council	
National Landscape (formerly AONB) Management Plans (various)	
Producing an area management plan is a statutory requirement for every AONB. Its purpose is to: • Highlight the special qualities and significance of the AONB • Present a vision for the future of the AONB • Set out objectives and policies to secure the vision • Identify what needs to be done, by whom and when • State the condition of the AONB and how the effectiveness of its management will be monitored • Reflect the views and aspirations of a wide range of AONB stakeholders and parties with an interest in it • Co-ordinate the work of different partner organisations Every AONB will have a different management plan, and these could vary quite significantly. This Compendium contains information surrounding Norfolk and Suffolk's land types, soil types, habitats and species, the quality of different water bodies, emissions and particulate information, and coastal and marine quality/stocks. It includes risks and the implications of them. The Compendium is in the form of a detailed 93 slide presentation. At the end it lists the impacts of the information in the presentation and follows up with a response in the form of priorities and next steps.	The DP27 should take into account the AONB Management Plans. The SEA assessment framework should consider the effects of the DP27 on the achievement of the Plans' visions and the effects of actions on National Landscapes.
Natural Character Area Profiles (various)	
Areas defined at the national level (which describe the geographical, ecological and historical variations in landscape character) make one area different from another. Their boundaries follow natural lines in the landscape rather than administrative boundaries making them a good decision-making framework for the natural environment. National Character Areas (NCAs) divide England into 159 distinct natural areas.	The SEA assessment framework should consider the effects of the DP27 on the Natural Character Areas in its area of influence.
River Basin Management Plans (RBMPs) (various)	
Guidance for river basin planning function for the planning period from 2021 to 2027 with updates made in 2022. They set out expectations for the main steps and principles of the river basin planning process and the	The DP27 should take into account the RBMPs.

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
documents the Environment Agency must produce. The plans are the foundation for delivering the Government's 25 Year Environment Plan 'clean and plentiful water' goal.	The SEA assessment framework should consider the effects of the DP27 on the achievement of the Plans' visions and the effects of actions on the river basins.
Fens Reservoir Strategic Resource Option (SRO) Gate 2 Report (2022)	
The Fens SRO is one of two SROs associated with Anglian Water and is being developed in partnership with Cambridge Water. It is a proposed development of a 55 cubic megametres (Mm3) reservoir with a useable volume of 50Mm3. SROs are required to follow the RAPID process which is a gated process. The gate two concept design produced by Anglian Water and Cambridge Water shows the reservoir covering an area of approximately 5km2 with a maximum embankment height of 20m. A proposed site has been identified for the Fens Reservoir, located north of Chatteris in Cambridgeshire. It is anticipated that the new reservoir will deliver benefits beyond just water supply, by enabling a range of wider social, environmental and economic benefits. The new reservoir could be a valuable leisure destination for activities such as walking, cycling, sailing and angling and provide a support system to conserve wildlife and enhance biodiversity, protecting valuable species and creating new habitats. Opportunities are also being explored with partners and stakeholders for the reservoir and transfers to be part of a much bigger system, enabling wider, multi-sector benefits across the region. The following key risks have also been identified for delivery: • Inflation impacts the cost of delivering the work needed; budget no longer sufficient • Unfavourable ground conditions or archaeological finds delay programme and increase cost • Delay to final WRMPs publication or DCO application delays programme • Information from stakeholder feedback causes programme delays • Findings from the full HRA delay programme • Unable to obtain and retain abstraction licences • Supply chain not able to resource earthworks programme	The DP27 should take into account major development in the Anglian Water Area. The SEA assessment framework should consider potential for cumulative impacts.
Lincolnshire Reservoir (SLR) Gate 2 Report (2022)	
The Lincolnshire Reservoir SRO is one of two SROs associated with Anglian Water and is being developed in partnership with Affinity Water. It is a proposed development of a 55 million cubic metre (MCM) reservoir, with 50MCM useable volume in Lincolnshire, south of Sleaford. The reservoir plans show a maximum embankment height of 20m covering an area of about 5km. The deployable output is modelled to be 166 megalitres per day (Ml/d). It is anticipated that the new Lincolnshire Reservoir will deliver benefits beyond just water supply, by enabling a range of wider social, environmental and economic benefits. The new reservoir could be a valuable leisure destination for activities such as walking, cycling, sailing and angling and provide a support system to conserve wildlife and enhance biodiversity, protecting valuable species and creating new habitats. Opportunities are also being explored with partners and stakeholders for the reservoir and transfers to be part of a much	The DP27 should take into account major development in the Anglian Water Area. The SEA assessment framework should consider potential for cumulative impacts.

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan (DP27) and the SEA objectives
bigger system, enabling wider, multi-sector benefits across the region. The following key risks have also been identified for delivery: • Inflation impacts the cost of delivering the work needed; and the budget is no longer sufficient • Unfavourable ground conditions or archaeological finds delay programme and increase cost • Information from stakeholder feedback causes programme delays • Delay to final WRMP publication or DCO application delays the programme • Findings from the full Habitats Regulations Assessment (HRA) delay programme • Unable to obtain and retain abstraction licences • Supply chain not able to resource earthworks programme	

APPENDIX B: ENVIRONMENTAL BASELINE REVIEW

B.1 BIODIVERSITY, FAUNA AND FLORA

B.1.1 Baseline

Biodiversity encompasses the wide range of plant species (flora) and animal species (fauna) within a given area, along with the ecosystems and habitats that support them. The need to protect biodiversity is acknowledged across all levels, from global to local scales. Beyond its intrinsic value, biodiversity plays a crucial role in enhancing quality of life and providing various benefits, including recreational, cultural, and environmental value.

B.1.1.1 Nature Conservation Designations

The Anglian Water SEA study area includes a variety of sites that are designated at a European, national or local level as important for biodiversity, flora and fauna. The baseline from the previous SEA collected information for the numerous SACs, SPAs, Ramsar, SSSIs and national and locally designated sites such as LNRs and NNRs located within Anglian Water's supply area which have the potential to be affected by the Drought Plan have been included.

These have been reviewed and updated for DP27. All sites within 5km of the proposed DP27 actions together with any sites beyond the 5km boundary that could be affected by changes to surface or groundwater levels either upstream or downstream of the proposed action, have been included in the baseline review. Where possible, sites which have no water dependent habitats or species were screened out of the baseline. These are shown in **Table B-1** to **Table B-6**. Nature Conservation areas within the SEA area are shown on **Figure B-1**.

Ancient woodland is any wooded area that has contained woodland continuously since at least 1600 AD Natural England and Forestry Commission (2022). It tends to be more ecologically diverse and of a higher nature conservation value than those developed recently, or where cover on the site has been intermittent. They often also have cultural importance. Ancient Woodland is shown in **Figure B-1**.

Table B-1: Lower Colne (Ardleigh Reservoir): Designated sites

Designation	Site name
SSSI	Arger Fen, Blackwater Estuary, Bullock Wood, Chalkney Wood, Colne Estuary, Cornard Mere, Little Cornard, Roman River, Upper Colne, Marshes, Marks Tey Brickpit, Wivenhoe Gravel Pit, Cattawade Marshes, Stour Estuary
SPA	Colne Estuary (Mid Essex Coast Phase 2), Blackwater Estuary (Mid-Essex Coast Phase 4)
Ramsars	Colne Estuary (Mid Essex Coast Phase 2), Blackwater Estuary (Mid-Essex Coast Phase 4)
SAC	Essex Estuaries
LNR	Bull Meadows, Brickfield and Long Meadow, Colne, Colne Valley, Hilly Fields, Lexden Park, Salary Brook, Spring Lane Meadows, Welsh Wood

Table B-2: Costessey (Heigham WTW): Designated sites

Designation	Site name
SSSI	River Wensum (also SAC), Swannington Upgate Common, Buxton Heath, Alderford Common and sweet Briar Meadows
SAC	River Wensum
LNR	Bowthrope Marsh

Table B-3: River Gt Ouse (Grafham Water): Designated sites

Designation	Site name
SSSI	Brampton Wood, Chettisham Meadow, Hemingford Grey Meadow, Great Stukeley Railway Cutting, Little Paxton Wood, Delph Bridge Drain, Setchey, Upware North Pit, Cam Washes, Islington Heronry, Wiggenhall St. Germans, Upware Bridge Pit North, Upware South Pit, Brampton Meadow, Ely Pits and Meadows, Little Paxton Pits, Wicken Fen, River Nar, Hilgay Heronry, Ouse Washes, The Wash, Portholme, Godmanchester, East Side Common, Houghton Meadows, Berry Fen, Grafham Water
SPA/ Ramsar	Ouse Washes SPA and Ramsar, The Wash SPA and Ramsar
SAC	Portholme, Ouse Washes, The Wash & North Norfolk Coast
LNR	Mare Fen, Somersham, Little Downham, Little Paxton Pits
National Landscapes	Norfolk Coast

Table B-4: River Nene (Pitsford Water): Designated sites

Designation	Site name
SSSI	Bonemills Hollow, Castor Flood Meadows, Pitsford Reservoir, Sutton Heath and Bog, Wadenhoe Marsh and Achurch Meadow, Wansford Pasture, Wollaston Meadow, Orton Pit, Nene Washes, Upper Nene Valley Gravel Pits Barnack Hills & Holes, Bedford Purlieus, Bozeat Meadow, Castor Hanglands, Collyweston Great Wood and Easton Hornstocks, Cranford St John, Finedon Top Lodge Quarry, Glapthorn Cow Pasture, Irchester Old Lodge Pit, Old Sulehay Forest, Short Wood, Southorpe Meadow, Southorpe Paddock, Southorpe Roughs, Sudborough Green Lodge Meadows, Thrapston Station Quarry, Titchmarsh Meadow, Twywell Gullet, West Abbot's and Lound Woods, Wollaston Meadows

Designation	Site name
SPA / Ramsar	Upper Nene Valley Gravel Pits SPA and Ramsar, Nene Washes SPA and Ramsar, Aldwincle Marsh SPA
SAC	Orton Pit, Nene Washes, Barnack Hills & Holes
LNR	Kingsthorpe, Barnes Meadow, Summer Leys, Kinewell Lake, Titchmarsh, Woodston Ponds, The Boardwalks

Table B-5: Wellington Wellfield (Stoke Ferry & Marham WTW): Designated sites

Designation	Site name
SSSI	Boughton Fen, Breckland Farm, Breckland Forest, Cranwich Camp, Didlington Park Lakes, Eriswell Low Warren, Field Barn Heaths, Foulden Common, Foxhole Heath, Gooderstone Warren, Great Cressingham Fen, Grime's Graves, Hooks Well Meadows, Lakenheath Pools Fen, Lakenheath Warren, London Road Industrial Estate, Lord's Well Field, Maidscross Hill, Old Bodnecamp, Pashford Pools Fen, RAF Lakenheath, Stallode Wash, Stanford Training Area, The Brinks, Northwold, Thetford Golf Course and Marsh, Thetford Heaths, Wangford Warren and Carr, Weeting Heath, Wretham Park Meres, Wretton, Buxton Heath.
SPA	Breckland
SAC	Breckland, Norfolk Valley Fens
NNR	Weeting Heath, Thetford Heath
LNR	Maidscross Hill,

Table B-6: River Nene (Rutland Water): Designated sites

Designation	Site name
SSSI	Upper Nene Valley Gravel Pits, The Nene Washes, Rutland Water, The Wash, Adventurer's Land, Bassenhally Pit, Castor Flood Meadows, Sutton Heath and Bog, Barnack Hills & Holes, Bedford Purlieus, Bonemills Hollow, Castor Hanglands, Dogsthorpe Star Pit, Old Sulehay Forest, Orton Pit, Southorpe Meadow, Wansford Pasture, West Abbot's and Lound Woods
SPA / Ramsar	Nene Washes SPA and Ramsar, Rutland Water SPA and Ramsar, The Wash SPA and Ramsar
SAC	Nene Washes, The Wash and North Norfolk Coast
LNR	Dogsthorpe Star Pit, Eye Green, Lattersey Field, Grimeshaw Wood, The Boardwalks, Woodston Ponds

Designation	Site name
Local Wildlife Sites	36 sites present in the vicinity of the action

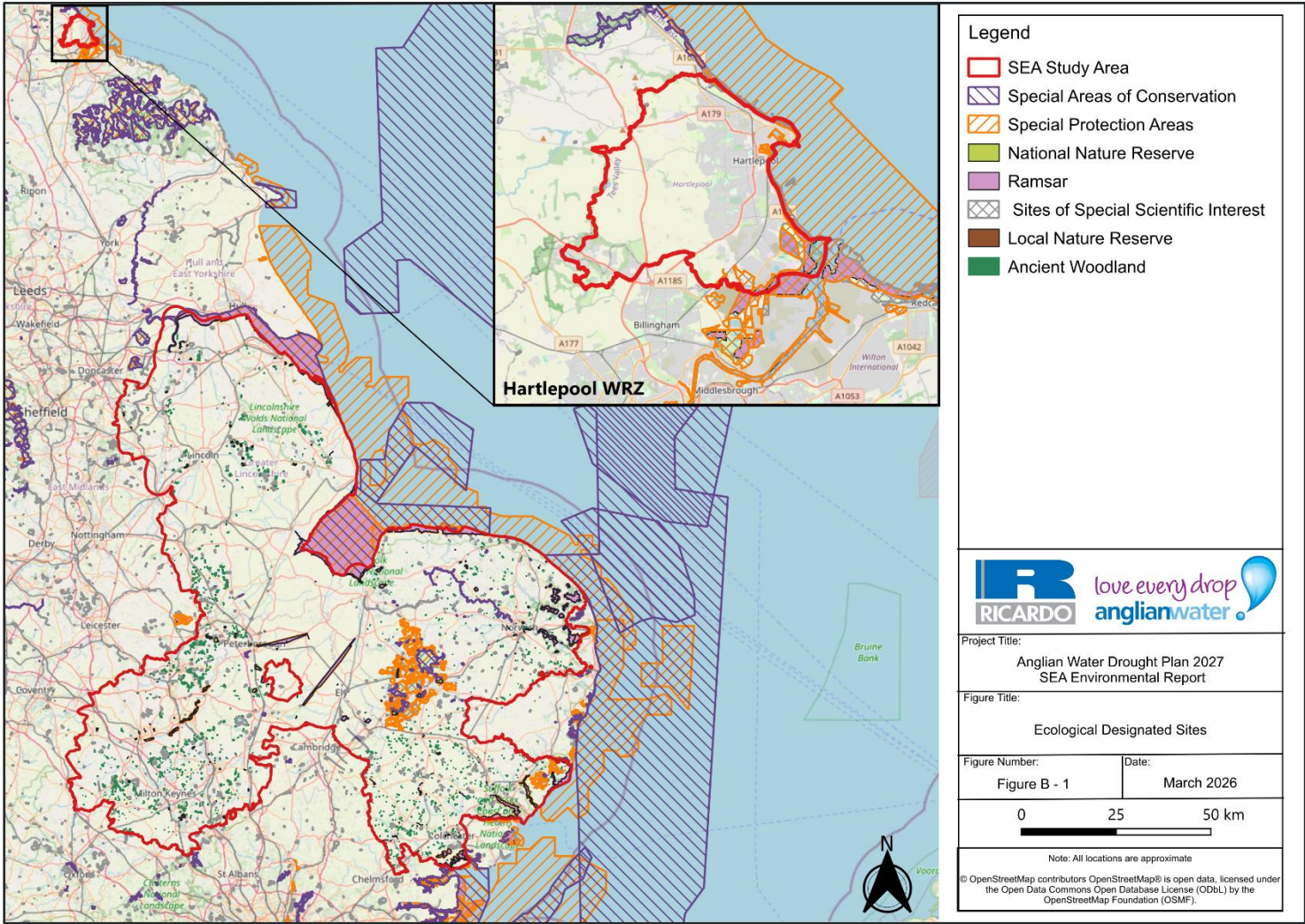


Figure B-1: Designated sites in Anglian Water's Supply Area

B.1.1.2 Flora and Fauna

Species and habitats of principal importance for the conservation of biodiversity in England are identified in the Natural Environment and Rural Communities (NERC) Act 2006 Section 41. There are 18 designated habitats (Defra and Natural England, 2022) under the Natural Environmental and Rural Communities (NERC) Act within the Anglian Water SEA study area. These include reedbeds, fens and water meadows. Important water-related NERC species are listed in below.

- Otter
- Water vole
- Atlantic salmon
- European eel
- Sea/Brown trout
- River lamprey
- White clawed crayfish and
- Snakeshead Fritillary
- Loddon Lilly
- Creeping Marshwort
- Narrow-leaved water-dropwort
- River water-dropwort
- Fine-lined Pea Mussel
- Freshwater Pea Mussel
- Depressed River Mussel
- Greater Water Parsnip
- Club-tailed Dragonfly
- Tassel Stonewort
- Desmoulins Whorl Snail
- Snipe
- Lapwing
- Natterer's Bat
- Daubenton's Bat
- Pipistrelle Bat

The Water Framework Directive (WFD) ecological status classification considers the condition of biological quality elements (e.g. aquatic invertebrates, plants and fish), the morphology of the habitat available in each water body (e.g. a defined stretch of river), and concentrations of supporting physico-chemical elements (e.g. dissolved oxygen, ammonia, soluble reactive phosphorus (SRP), Biochemical Oxygen Demand (BOD), and priority substances and priority hazardous substances). See the 'Water' topic for details on water quality, and the ecological condition of surface water bodies.

Drought actions have the potential to affect biodiversity, flora and fauna due to the operational abstraction of water during times of water stress or due to impacts of any construction works required. Water abstraction and associated infrastructure can sometimes result in adverse effects on water-related sites. Impacts on biodiversity may include the drying out of wetland habitats, lower water levels and slower flows in watercourse, changes in water chemistry and deterioration in water quality, change in water temperature, or the transfer or proliferation of INNS. The sensitivity of environmental features that can be affected by implementing drought actions is site specific. A drought is transient, and the deployment of a drought action would only be for a limited period of time. Therefore, the duration of effects on sensitive features and reversibility post drought are important considerations.

B.1.1.3 Aquatic Ecology

Data relating to the aquatic ecology of the watercourses that may be affected by the DP27 actions have been collated as part of the previous SEA in support of the EARs undertaken for the DP22. The EARs have been updated ahead of completing the DP27 submission and these have informed the SEA.

European eel is recognised as a Species of Principal importance in the UK (NERC Act 2006, Section 41) and is a critically endangered as per the IUCN Red List, featured on the OSPAR Commission List of Threatened or Declining Species. European eel is present across the Anglian region, however, populations have been declining in recent years. Loss of habitat, presence of migration obstacles, entrainment and water pollution have been identified as key pressures for eel populations. Drought permit actions have potential to changes water level and flow which may affect eel migration, passage and entrainment.

Atlantic salmon (*Salmon salar*) is also, a species of European importance as listed in Annexes II and V of the EU Habitat Directive. Changes in water level and flow as a result of the implementation of drought permit actions may affect salmon migration, passage and entrainment.

B.1.1.4 INNS

There has been a dramatic increase in the number of non-native species arriving into the UK over recent decades, as well as in the number of INNS being established. As of 2021, there were approximately 2,000 NNS established in Britain, with 10 to 12 new NNS becoming established every year. Anglian Water has several INNS-driven projects taking place as part of the Water Industry Natural Environment Programme (WINEP) (Defra, Welsh and Scottish Government, 2023).

Anglian Water's staff follow biosecurity procedures when visiting sites and report INNS when they find them. Water-related parks in the region have wash down facilities so visitors, including anglers, can clean their equipment. Anglian Water have also set up an INNS fund as part of their commitment to protect and enhance rivers and wetlands across the region through supporting projects that target the prevention or management of INNS. Anglian Water supports and is carrying out various projects to manage INNS such as the catchment-wide initiative by the East Mercia Rivers Trust and the Suffolk Wildlife Trust funded by the Anglian Water INNS Fund to control the spread of Himalayan balsam and Water fern respectively (Anglian Water, 2024c).

Implementation of Anglian Water's current drought plan actions are not expected to increase in the distribution of INNS. More extreme supply actions could potentially have impacts on INNS distribution and an assessment of this risk would be required before implementation. Non-native species cause significant adverse impacts, including out-competing native species and spreading disease. The Great Britain INNS Strategy (Defra, Welsh and Scottish Government, 2023) builds on previous strategies to provide a framework for coordinated action to prevent spread and work to eradicate species across the Great Britain. The distribution of INNS has been assessed in the SEA report and the spread of INNS forms a key question with regards to biodiversity in **Table 4-1**.

B.1.2 Future Baseline

It is not expected that many additional sites will be designated under international or national legislation, with the focus therefore on achieving the conservation objectives set for each of these sites. A range of actions are included in the management plans for each site to contribute to the achievement of these objectives. These timescales recognise the time required for environmental changes to arise following positive interventions. A similar trend is likely for achievement of objectives associated with the NERC priority habitats.

The number of locally designated sites may increase slightly in response to growing community activities and the development of both national and local environmental initiatives. For instance, Natural England has an ongoing program of site condition assessments, particularly for SSSIs. These assessments help determine the condition of a site's features and facilitate their conservation (Defra, 2024a). An improving trend in the condition of these sites is also anticipated with greater resources (particularly voluntary resources) devoted to their protection and enhancement.

The Environmental Improvement Plan 2025 (EIP25) (Defra, 2025c) sets a strengthened and more detailed roadmap for restoring nature and meeting the statutory targets established under the Environment Act 2021. The plan accelerates progress toward delivering the long-term aims of the original 25-Year Environment Plan by establishing clearer accountability, prioritised actions, and measurable outcomes. EIP25 reinforces commitments to restore protected sites, support the recovery of species, expand habitat creation, and integrate nature recovery into land-use planning and major infrastructure delivery. It also places greater emphasis on biosecurity, enhancing protections against pests, diseases, and environmental risks affecting wildlife, trees and livestock. These expanded commitments sit within the government's broader ambition to tackle climate change, address biodiversity loss, and embed nature at the heart of sustainable growth.

Habitat fragmentation is a significant issue for wildlife in the UK and around the world. Its consequences include a reduction in habitat size, a decline in habitat quality, and an increased risk of extinction. This is particularly important in the case of functionally linked land, which is vital to the ecological or behavioural needs of a qualifying feature for which a SAC, SPA or Ramsar site has been designated. A range of measures can be taken to address habitat fragmentation, such as protecting existing habitats, restoring damaged areas, and creating new ones. For example, the Environmental

Improvement Plan (Defra, 2025c) includes commitments to restore and establish new woodlands along rivers in England, through nature-based flood and catchment management, woodland creation and habitat restoration, water quality improvements, and landscape-scale nature recovery.

Climate change is likely to have an impact on wildlife in the future by exacerbating existing pressures such as changes to the timing of seasonal activity, and water scarcity. It is acknowledged that there is a need to allow wildlife to adapt to the impacts of climate change. Climate change may create pathways for the introduction and spread of INNS (Greenpeace UK, n.d). It will affect the abundance and diversity of natural enemies, competitors and species that constitute resources, as well as a species' ability to compete for resources or resist natural enemies.

B.1.3 Key Issues

The key sustainability issues arising from the baseline assessment for biodiversity are:

- Protecting, conserving or enhancing biodiversity, particularly protected sites designated for nature conservation.
- Opportunities to improve connectivity between fragmented habitats to create functioning habitat corridors.
- Slow/halt or reverse biodiversity losses and declines and avoid activities likely to cause irreversible damage to natural heritage.
- Protect fish populations and fisheries (freshwater and marine), linked with habitat quality and water quality.
- Recognise the importance of allowing wildlife to adapt to climate change.
- Integrate biodiversity considerations to new developments.
- Control the spread of INNS.
- The need to engage more people in biodiversity issues so that they personally value biodiversity and know what they can do to help, including through recognising the value of ecosystem services.

B.2 POPULATION AND HUMAN HEALTH

B.2.1 Baseline

B.2.1.1 Population

Anglian Water serves one of the fastest growing parts of the UK. The area it serves is home to approximately nine million people and the population is predicted to increase by more than 700,000 people over the next 20 years (Anglian Water, 2023). The population data below (**Table B-7**) shows an increase in the resident population within the majority of Anglian Water's supply area between 2011 and 2023. The increase for both these regions is 9.4% and 9.1%, which is slightly above the national average of 7.9%.

Table B-7 describes the latest population projections for the main regions covered by Anglian Water's water supply area. The East and East Midlands regions forecast a growth in population up to 2028 (compared to mid-2019 estimates) of 5% and 7%, respectively. Projected population growth in the East region is comparable with the national average, meanwhile, growth in the East Midlands region is projected to be considerable. The East Midlands is projected to be the fastest growing region increasing by 7% by mid-2028 (ONS, 2020a). Hartlepool is a coastal town in the North East of England and forms part of Anglian Water's supply area. In 2011, the town had an estimated population of around 92,000 ONS (2023a) which has since grown to approximately 98,180 as of 2024 (ONS, 2023b).

Households in England are projected to increase by 1.6 million (7.1%) over the next 10 years, from 23.2 million in 2018 to 24.8 million in 2028 (ONS, 2020b) and the East of England and East Midlands regions project greater growth in the number of households of 7.2% and 8.7%, respectively. The East Midlands region has the second greatest growth projections in England, behind the South West. In contrast, the North East, within which Hartlepool is located, has the lowest projected growth in England, with household numbers expected to rise by only 4.8% over the same period.

It is important to note that the population estimates are calculated based on whole Local Planning Authority (LPA) Districts within the regions and the boundaries of Anglian Water's water supply areas are not consistent with District boundaries. They are also based on projections for household formation, migration and development trends that are subject to change.

Table B-7: Population statistics

Region	Usual resident population				
	2011 Census (ONS, 2012)	Mid-2023 Estimate (ONS, 2024a)	% change	Predicted population in mid-2028 (ONS, 2020a)	Predicted % change from mid- 2018
East	5,862,418	6,469,000	9.4	6,512,000	5.0
East Midlands	4,537,448	4,991,000	9.1	5,138,000	7.0
England	53,107,169	57,690,000	7.9	58,752,000	4.37

B.2.1.2 Health

The DP27 has the potential to influence quality of life, including human health, well-being, amenity and community, through actions to maintain essential water supplies during drought conditions. There could be beneficial effects (e.g. actions to provide additional supply of water will help safeguard public health) or adverse effects (e.g. noise and disruption from temporary infrastructure required to pump water). The Drought Plan also sets out actions to ensure that essential water supplies can be maintained to all Anglian Water's customers, thereby protecting public health in drought conditions.

An overview of general health is provided in **Table B - 8**, using information collected as part of the 2021 census. Compared with England overall, the East of England reports slightly better health, with higher levels of very good health (47.9% vs 47.0%) and lower levels of not good or very bad health. The East Midlands sits close to the national average but shows a slightly lower share of residents in very good health and a slightly higher proportion reporting poorer health. The North East (in consideration of Hartlepool) has the least favourable health profile relative to England, with fewer people reporting very good or good health and the highest proportions reporting not good (5.3%) and very bad health (1.6%). Overall, all three regions broadly follow national patterns, but the North East shows a more pronounced burden of poorer self-reported health.

Table B - 8: General health by region (2021) (ONS, 2021; 2023a)

County, district, or unitary authority	General health very good (%)	General health good (%)	General health fairly good (%)	General health not good (%)	General health very bad (%)
East of England	47.9	35.0	12.5	3.6	1.0
East Midlands region	45.5	35.1	13.7	4.2	1.2
North East	44.7	33.6	14.8	5.3	1.6
England	47.0	34.2	13.3	4.2	1.3

Table B - 9 provides various indicators related to the general level of health in each area. Compared with England overall, the East of England performs better on both indicators, with higher life expectancy for males and females, and a lower under-75 mortality rate. The East Midlands sits below the national average, with slightly lower life expectancy for both males and females and a higher under-75 mortality rate. The North East (in consideration of Hartlepool) shows the least favourable outcomes, with the lowest life expectancy and the highest under-75 mortality rate.

Table B - 9: Health Indicators by region (Department of Health and Social Care, 2023; ONS, 2024b; Department of Health and Social Care, 2024)

County, district, or unitary authority	Life expectancy at birth (2020 - 2022)		Under 75 mortality rate from all causes, per 100,000 (2023)
	Male	Female	
East of England	79.8	83.5	311
East Midlands	78.6	82.4	357
North East	77.7	81.6	395
England	79.3	83.2	342

B.2.1.3 Economy

East of England

The East of England has the third highest employment rate of any English region in the UK, following the South West and the South East. The latest employment rate (May to July 2024) is 76% compared with a UK average of 74.8% and the England average of 75.2%. Employment rate was down 0.6% compared with the same period for 2023 (**Table B - 10**) (ONS, 2024c).

In 2022 the Gross Disposable Household Income (GDHI) per head in the East of England was £ 23,661 which is also the third highest in England (ONS, 2024d).

The latest figures from 2022 show that the East of England is the third biggest contributor with a total GVA of £ 187,608 million. The 2022 sub-regional data shows that Bedfordshire and Hertfordshire was the largest contributor to the East of England with a GVA at £62,995 million. Real estate activities accounted for the largest proportion of GVA in 2022 at £27,176 million followed by wholesale and retail trade and repair of motor vehicles with £22,277 million. The region was responsible for 17.2% of the England's agriculture, forestry, and fishing GVA, making it the second highest contributor for that sector in England behind the South West (ONS, 2025e).

East Midlands

The latest figures (May to July 2024) show that the East Midlands has an employment rate of 75.1% which is the fifth highest of the English regions. Employment rate was down 0.4% compared with the same period for 2023 (**Table B - 10**) (ONS, 2024c).

The GDHI for the East Midlands in 2022 was £19,879 per head; the fifth highest in England and below the national GDHI of £23,338 (ONS, 2024d).

The East Midlands had a GVA of £128,254 million in 2022, accounting for 5.7% of the UK's total GVA. Leicestershire and Rutland were responsible for the second highest amount of GVA in the East Midlands in 2022 with £53,785 million. The highest proportion of the region's GVA in 2022 was a result of wholesale and retail trade and the repair of motor vehicles at £15,948 million followed by real estate activities with £15,523 million. The East Midlands is responsible for 11% of the UK's food, beverage, and tobacco manufacturing sector and 18.6% of the textiles and wearing apparel manufacturing sector. The region was the second largest GVA contributor for those sectors in 2022 after the North West region (ONS, 2024d).

North East

The latest figures (May to July 2024) show that the North East has an employment rate of 69.4% which is the lowest of the English regions. Employment rate was down 3.9% compared with the same period for 2023 (**Table B - 10**) (ONS, 2024c).

The GDHI for the North East in 2022 was £18,388 per head; also the lowest in England and below the national GDHI of £23,338 (ONS, 2024d).

The North East had a GVA of £62,364 million in 2022, accounting for 2.8% of the UK's total GVA. Hartlepool and Stockton-on-Tees were responsible for the fifth highest amount of GVA in the East Midlands in 2022 with £7,398 million. The highest proportion of the region's GVA in 2022 was a result of Real estate activities at £7,865 million followed by Human health and social work activities with £7,136 million.

Table B - 10: Employment rate estimates for people aged 16-64 years, by region (ONS, 2024c)

Region	2024	Change compared to May to July 2023
East of England	76.0	-0.6
East Midlands	75.1	-0.4

Region	2024	Change compared to May to July 2023
North East	69.4	-3.9
England	75.2	0.0

B.2.2 Future Baseline

Population in the Anglian region is projected to increase by more than 700,000 people over the next 20 years imposing a significant pressure on Anglian Water's supply-demand balance (Anglian Water, 2023b). The demand for new housing in England is estimated to reach as high as 340,000 new homes per year, driven by demographic changes and a significant backlog of need (Barton, et al., 2023).

In response to recent studies, access to the recreational resources, green spaces and the historic environment will have greater importance in future planning (Public Health England, 2020). In 2022, the Office for National Statistics analysed the health benefits of outdoor recreation and natural capital in the UK, underscoring the beneficial impact of these activities on public health (ONS, 2022). Initiatives such as the Natural Green Infrastructure (GI) Framework have been introduced to promote the development of high-quality green infrastructure that benefits both people and nature (Natural England, 2024a). A partnership between the National Trust, The National Lottery Heritage Fund, and Natural England has been established to help local councils improve access to green spaces in urban areas, highlighting the growing recognition of their value (UK Government, 2024a). These efforts are expected to play a crucial role in shaping sustainable and healthy communities for the future.

B.2.3 Key Issues

The key sustainability issues arising from the baseline assessment for population and human health are:

- The need to ensure public awareness of drought conditions and importance of maintaining resilient, reliably public water supplies without the need for emergency drought actions.
- The need to accommodate an increasing population.
- Ensure water quantity and quality in rivers is maintained for a range of uses including tourism, recreation, navigation and use for agricultural purposes.
- Ensure supplies of water are reliable and affordable.
- Deliver sustainable development, recognising social, environmental and economic needs.
- Sites of nature conservation importance, heritage assets, water resources, important landscapes and public rights of way contribute to recreation and tourism opportunities and subsequently health and wellbeing and the economy.

B.3 MATERIAL ASSETS AND RESOURCE USE

B.3.1 Baseline

B.3.1.1 Water Use

Anglian Water operate 1,257 water and wastewater treatment works, which is around 25 percent of all the works in England and Wales (Anglian Water, 2024d). Anglian Water's key assets used to carry out its duties include (Anglian Water, 2023c):

- Over 76,000km of sewers
- 38,000km of water mains
- 1,128 water recycling centres
- 143 water treatment works
- 5,000 sewage pumping stations
- 392 water towers and service reservoirs
- 8 raw water reservoirs.

In 2023/24, Anglian Water achieved an in-year leakage result of 182.1 megalitres per day, marking the lowest three-year rolling average ever recorded. This represents a 6.2% reduction compared to the baseline period of 2017-2020. Anglian Water has further ambitions to reduce leakage levels to less than 10 per cent of the water supplied to customers by 2045 (Anglian Water, n.d.).

B.3.1.2 Resource Use and Waste

There is an ongoing need for society to reduce the amount of waste it generates, by using materials more efficiently, and improving the management of waste that is produced. In England, biodegradable municipal waste (BMW) to landfill figures have almost halved over the period 2010 to 2022 (10,339 thousand tonnes to 5,132 thousand tonnes) and household recycling rates have dropped to 43.3% (2018) from 44.3% (2015); meanwhile, waste generated by commercial and industrial activities reduced by 3.5 million tonnes between 2018 and 2020 (Defra, 2024b). In line with the widely adopted 'waste hierarchy', best practice for waste management is to prevent, re-use, recycle and recover, and only then should disposal (or storage) in landfill be considered.

Data on waste arisings is collected in a range of categories. The activities of the water industry contribute to construction, demolition and excavation waste (CDEW), through construction of new infrastructure. The water industry also contributes to several waste streams through the operation of facilities. Waste streams include commercial and industrial waste (C&I) (statistics include waste arisings from the power and utilities sector, which includes water supply and sewage removal), and also hazardous wastes.

Drought actions which require infrastructure may result in the use of raw materials and the production of waste. The operation of DP27 actions may result in additional chemical use and the production of waste through water treatment. Raw water (rainwater, groundwater, water from surface water bodies) could be included in the water treatment, which requires more intense levels of treatment.

B.3.2 Future Baseline

There are many factors to be considered when predicting future water demand. Population growth and changes in household size will mean that more houses are needed in areas where abstraction is not currently sustainable. Climate change is expected to exacerbate the situation further, as rising temperatures and greater seasonal variation in precipitation are likely to alter the public demand for water [Parliamentary Office of Science and Technology (POST), 2021]. It is projected that the UK will need an additional 5 billion litres a day by 2050 relative to current levels to support a growing population, the economy, food production and protect the environment (UK Government, 2024b).

The Environment Agency's National Framework for Water Resources (Environment Agency, 2020) sets ambitious targets to reduce average per capita consumption (PCC) to 110 litres per person per day by

2050. Between 2020 and 2038, Anglian Water projects a decrease in water demand from 1,172 million litres per day (Ml/d) to 1,105 Ml/d (a 5.7% reduction), despite a 15.7% increase in the household population, from 4.695 million to 5.435 million. This will result in a significant 18.5% reduction in the volume of potable water supplied per person per day, with a further 20% reduction targeted by 2040. To achieve these goals, Anglian Water plans to expand the rollout of smart water meters across the region, which will contribute to reducing PCC, below the Environmental Improvement Plan 2023 target of 122 l/h/d, by 2038, and projecting to achieve 110 l/h/d PCC by 2050 (Anglian Water, 2024a).

The Government's National Infrastructure Strategy (HM Treasury Infrastructure UK, 2020) includes visions to manage natural capital sustainably; treat water and waste in ways that sustain the environment and enable the economy to prosper; ensure a supply of water that meets the needs of households, businesses and the environment now and in the future and deal with waste in accordance with the waste hierarchy moving towards a zero-waste economy. The Government's Resource and Waste Strategy (HM Government, 2018) emphasises the importance of natural capital as one of the most valuable assets and sets out how England will preserve material resources, promote resource efficiency and a move towards a circular economy whilst minimising damage to the natural environment and reducing and managing waste carefully. Targets for England by 2035 include a 65% recycling rate for municipal solid waste and less than 10% of municipal solid waste to landfill.

The NPPF (Ministry of Housing, Communities & Local Government, 2024) emphasises the need for achieving sustainable development, through making effective use of land and existing resources, using natural resources prudently, minimising waste and pollution and supporting renewable and low carbon energy. The Government has committed to deliver a decarbonised power sector by 2035 and net zero by 2050, in line with the Paris agreement (United Nations, 2015). In the first quarter of 2023, renewables generated a record 48% of our electricity (UK Government, 2023). Although there have been positive developments in achieving this objective, the 2023 Climate Change Committee to the UK Parliament notes that action is significantly off track in a range of areas such as surface transport, electricity supply, buildings, electricity prices, land use, agriculture and industry (Climate Change Committee, 2023). Energy demand in the region has increased significantly in recent years and is expected to continue to rise in the future.

The Government's 25-year environment plan includes goals for increasing resource efficiency and minimising waste, including working towards the elimination of all avoidable waste by 2050, and all avoidable plastic waste by the end of 2042. The government has also developed a new national Resources and Waste strategy to look at the whole life-cycle of products in order to maximise the value of our resources during their lifetime. The Waste Strategy for England (HM Government, 2018), published in 2018, sets out measures to help society move away from a 'take, make, use and throw' approach to resources and materials and instead waste less and reuse, recycle and repair more. Targets for waste include; 50% recycling rate for household waste by 2020, 75% recycling rate for packaging by 2030, 65% recycling rate for municipal solid waste by 2035 and municipal waste to landfill at 10% or less by 2035.

B.3.3 Key Issues

The key sustainability issues arising from the baseline assessment for Material Assets and Resource Use are:

- The need to minimise the consumption of resources, including water and energy.
- The need to reduce the total amount of waste produced in the region, from all sources, and to reduce the proportion of this waste sent to landfill.
- The need to continue to reduce leakage from the water supply system to help reduce demand for water.
- Daily consumption of water is below the national average in the area, however, there is a continued need to encourage more efficient water use.

B.4 WATER

B.4.1 Baseline

B.4.1.1 Water availability

Water abstraction can impact upon hydrologically sensitive nationally and internationally designated sites and/ or influence wider biodiversity. Water abstraction can also have a bearing on the landscape in terms of visual amenity, particularly in landscapes designated as National Landscapes (formerly Areas of Outstanding National Beauty) or that form part of a National Park.

The Environment Agency is responsible for managing water resources in England to ensure there is enough water for people, industry and agriculture as well as a healthy environment. Abstraction Licensing Strategies (ALS) set out how water resources will be managed within a catchment area. Each strategy provides information on:

- what resources are available (where and when)
- which conditions may apply to new licences
- whether time limited licences will be replaced with the same conditions
- what changes may need to be made to existing non-time limited licences

Additionally, the local impacts of any proposed abstraction are considered to ensure the rights of existing water users and the environment is protected. ALS areas are based on river catchment boundaries and overlap with Anglian Water's supply area.

Within each ALS, river flows and groundwater levels are monitored at Assessment Points (significant points on rivers) and assessed alongside the volume of water which has been abstracted on average over the previous six years and the situation if all abstraction licences were used to full capacity. This data is used to determine the water availability for each water body. Water availability falls into the following categories:

- **Water available for licensing:** There is more water than required to meet the needs of the environment. New licences can be considered depending on local and downstream impacts.
- **Restricted water available for licensing:** If all licensed water is abstracted there will not be enough water left for the needs of the environment. No new consumptive licences would be granted and restrictions may be in place. Trading from an existing licence holder can occur.
- **Water not available for licensing:** Water body flows are below the indicative flow requirement to help support Good Ecological Status (as required by the Water Framework Directive). No further consumptive licences will be granted. Trading from an existing licence holder can occur.

The results of the most recent ALSs have been mapped onto WFD Cycle 2 boundaries and are represented by different water resource availability colours showing the availability of water resource for further abstraction. **Figure B - 2** shows the Environment Agency representation of resource availability based on the worst downstream water body at low flows (the flow percentile called Q95), focusing on the Anglian River Basin District and Anglian Water supply area. The availability of water varies throughout the SEA study area (**Figure B - 2** and **Figure B - 3**). The baseline information on the surface and ground water availability in the study area is provided by the following documents (Environment Agency, various):

- Broadland abstraction licensing strategy
- Cam and Ely Ouse abstraction licensing strategy
- Essex abstraction licensing strategy
- East Suffolk abstraction licensing strategy
- Idle and Torne abstraction licensing strategy
- Lower Trent and Erewash abstraction licensing strategy
- Nene abstraction licensing strategy

- North Norfolk abstraction licensing strategy
- Old Bedford abstraction licensing strategy
- Steeping, Great Eau and Long Eau abstraction licensing strategy
- Upper Ouse and Bedford Ouse abstraction licensing strategy
- Welland abstraction licensing strategy
- Witham abstraction licensing strategy

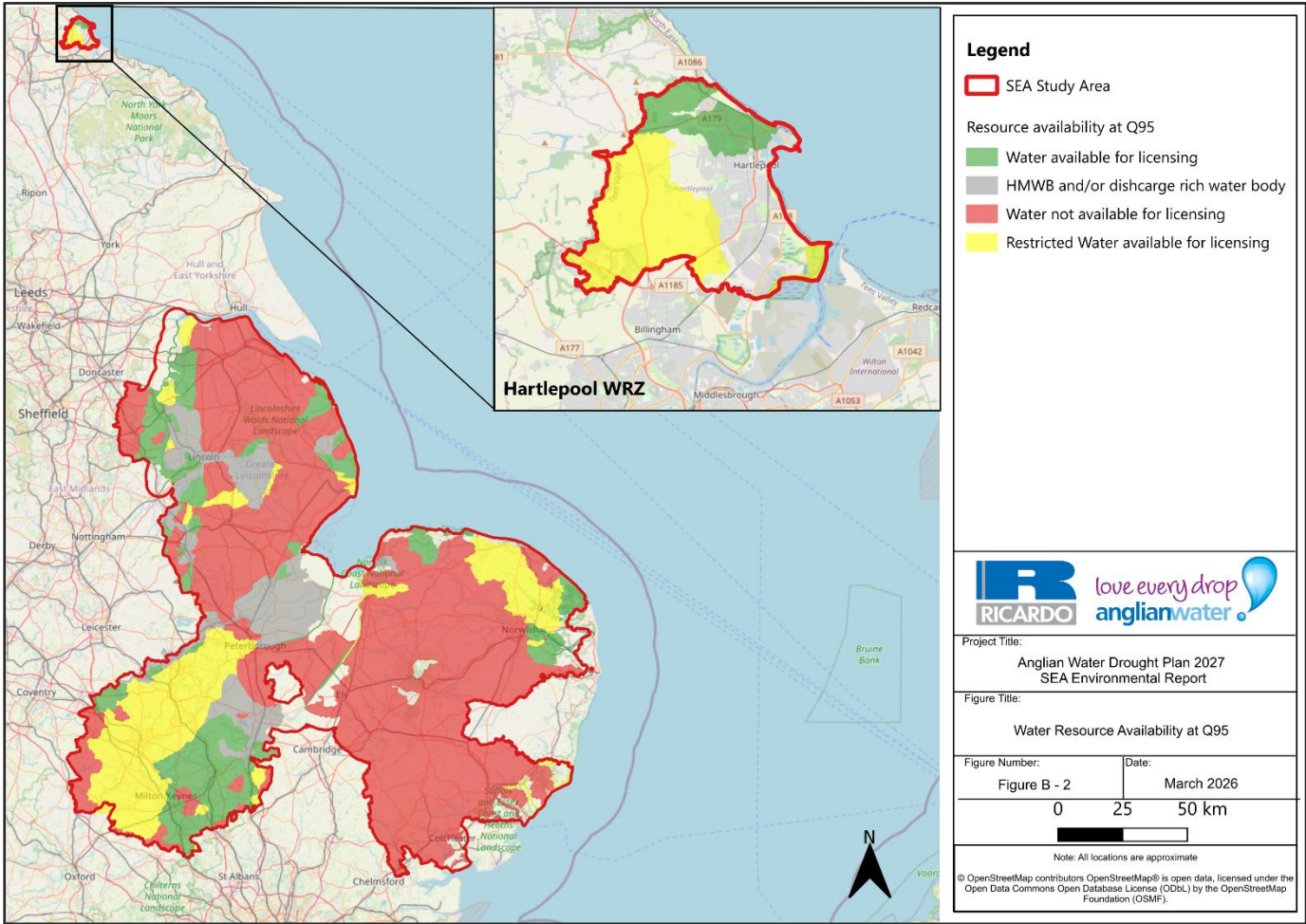


Figure B - 2: Water Resource Availability at Q95

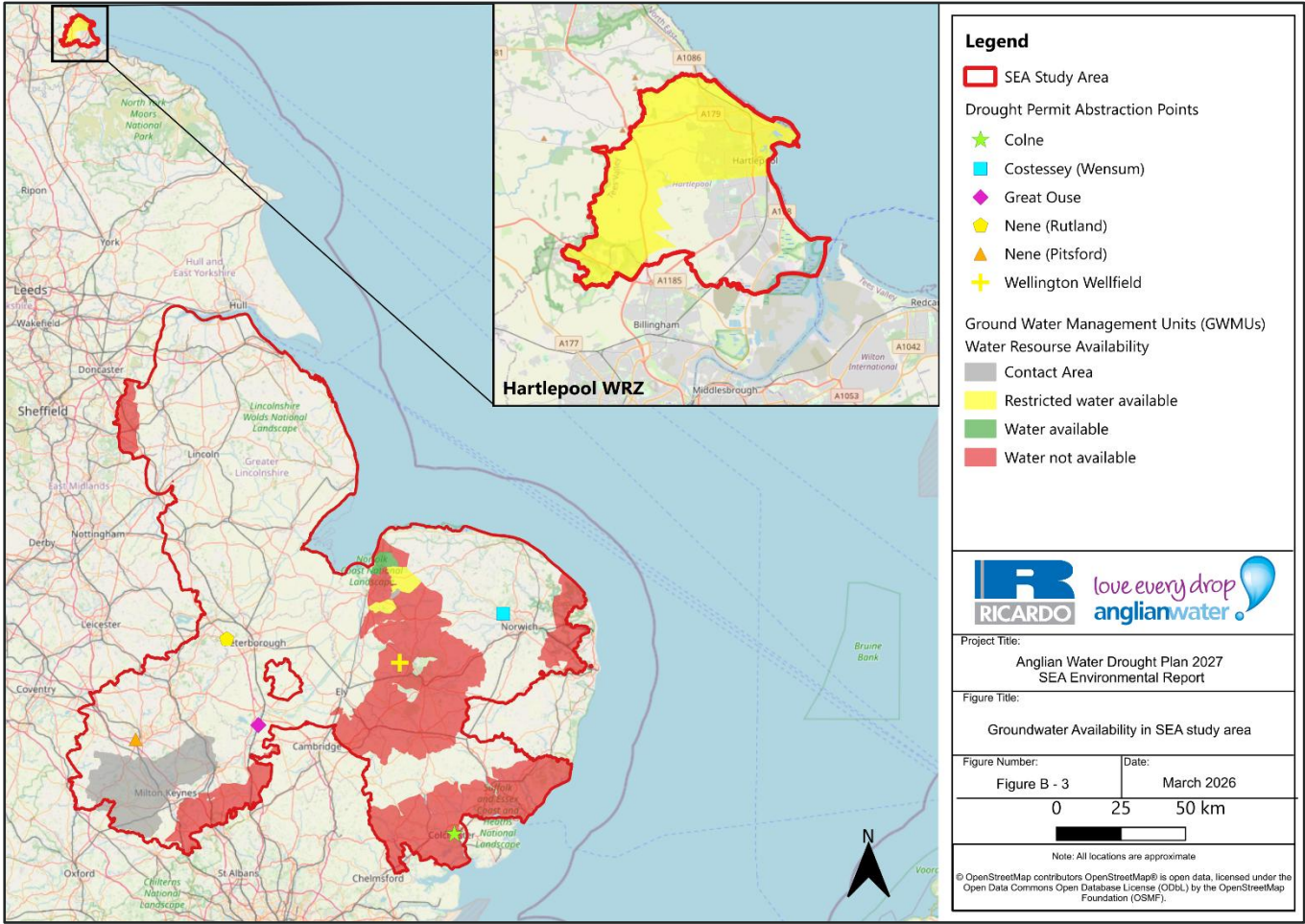


Figure B - 3: Ground Water Availability

B.4.1.2 Water Framework Directive

In the context of the WFD, the water environment includes rivers, lakes, estuaries, groundwater and coastal waters out to one nautical mile. The Anglian Water supply area lies almost entirely within the Anglian River Basin District (RBD). The Anglian River Basin Management Plan (RBMP) (Environment Agency, 2022) provides a framework for protecting and enhancing the benefits provided by the water environment. The Anglian RBMP was last updated in 2022.

The Anglian River Basin District covers 27,900km², extending from Lincolnshire in the north to Essex in the south and from Northamptonshire in the west to the east Anglian coast. **Figure B-4** illustrates the surface water features in the Anglian Water SEA study area.

Water quality is classified according to several quality elements in line with the requirements of the WFD.

For surface waters, there are two separate status classifications for water bodies: ecological and chemical. For a water body to be in overall 'good' status both ecological and chemical status must be at least 'good'. Biological status classification considers the condition of biological quality elements, e.g. aquatic invertebrates, plants and fish, the morphology of the habitat available and concentrations of supporting physico-chemical elements e.g. dissolved oxygen, ammonia, soluble reactive phosphorus (SRP), Biochemical Oxygen Demand (BOD), and priority substances and priority hazardous substances as indicators of water health.

In the most recent 2019 WFD classifications, of 599 surface water bodies within the Anglian RBD, with regard to their ecological status or potential 3.5% were classified as 'bad', 17.2% as 'poor', 71.5% as 'moderate', 7.8% as 'good' and 0% as 'high'. All 599 surface water bodies failed for their chemical status (Defra, 2024c) (see **Table B-11**).

Table B-11: Ecological and Chemical 2019 Cycle 3 classification for surface waters - Anglian River Basin District

No. of water bodies	Ecological status or potential					Chemical Status	
	Bad	Poor	Mod	Good	High	Fail	Good
599	21	103	428	47	0	599	0

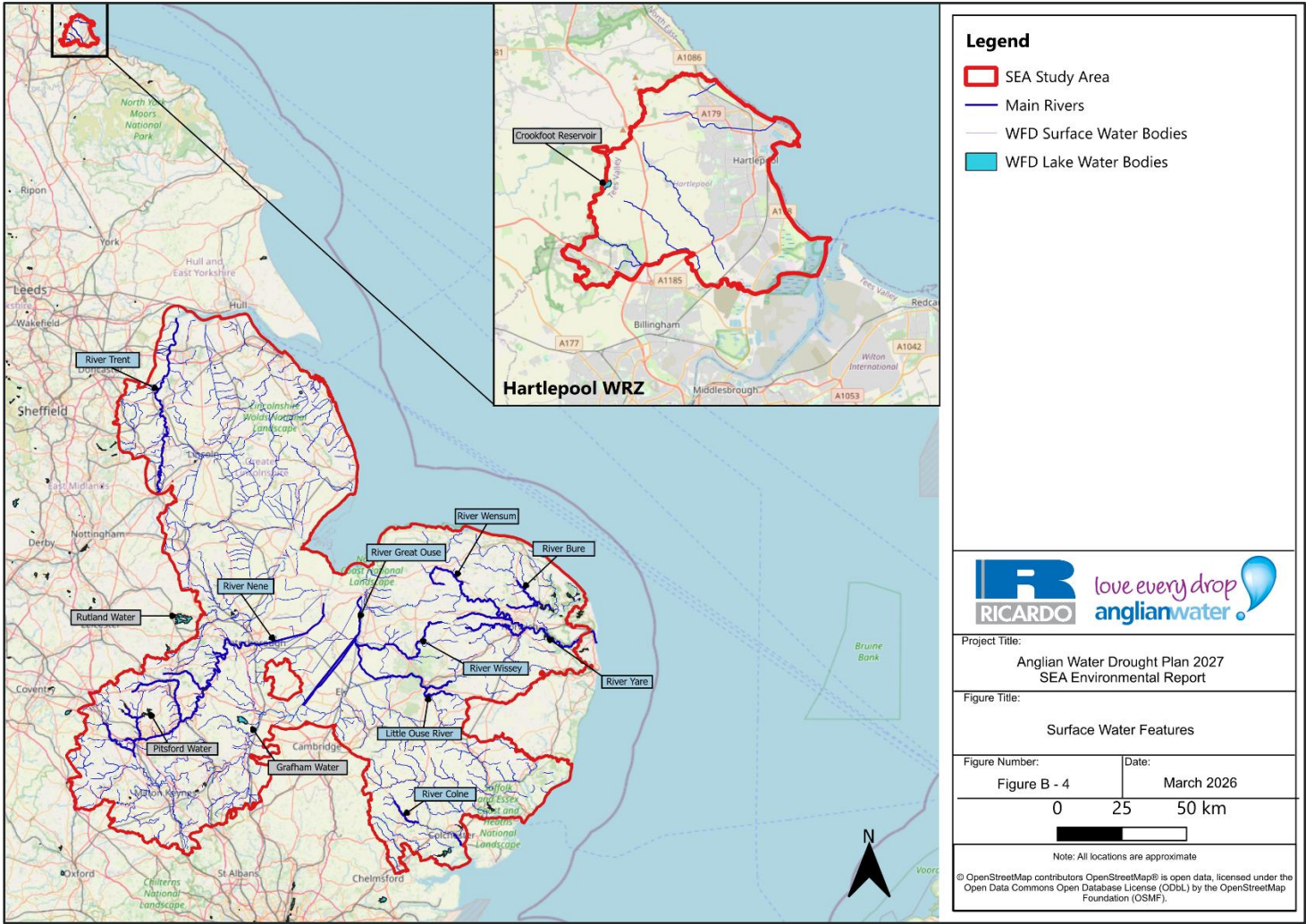


Figure B-4: Surface Water Features

For groundwater there are two separate classifications for groundwater bodies: chemical status and quantitative status. Each must be reported in addition to the overall groundwater body status. For a groundwater body to be at good status overall both chemical status and quantitative status must be good. In addition to assessing status, there is also a requirement to identify and report where the quality of groundwater is deteriorating as a result of pollution and which may lead to a future deterioration in status. Of the 31 groundwater bodies, 17 are classified as good for quantitative status (55%) and 16 for chemical status (52%) (see Table B-12).

Table B-12: Chemical and quantitative 2019 Cycle 3 classification for groundwaters – Anglian River Basin District

No. of water bodies	Quantitative status		Chemical status	
	Poor	Good	Poor	Good
31	14	17	15	16

A summary of the WFD data for each waterbody is provided for each drought action below in **Table B-13** to **Table B-18**.

Table B-13: Lower Colne (Ardleigh Reservoir) WFD data

Waterbody	Type	Hydro morphological designation	Protected areas (directives)	Overall classification (2019 Cycle 3)	Overall waterbody objective
Colne u/s Gt. Yeldham	River	Not designated artificial or heavily modified	Nitrates Directive	Poor	Good by 2033 Disproportionately expensive: Disproportionate burdens; Natural conditions: Ecological recovery time
Colne Gt. Yeldham – Doe's Corner	River	Heavily modified	Nitrates Directive	Poor	Moderate by 2027 Disproportionately expensive: Disproportionate burdens; Disproportionately expensive: Unfavourable balance of costs and benefits
Colne d/s Doe's Corner	River	Heavily modified	Nitrates Directive; Drinking Water Protected Area; Urban Waste Water Treatment Directive; Safeguard Zone	Moderate	Good by 2027 Disproportionate burdens. No known technical solution is available
Pebmarsh Brook	River	Heavily modified	Nitrates Directive	Good	N/A
Roman River	River	Heavily modified	Nitrates Directive	Moderate	Disproportionately expensive:

Waterbody	Type	Hydro morphological designation	Protected areas (directives)	Overall classification (2019 Cycle 3)	Overall waterbody objective
					Disproportionate burdens; Disproportionately expensive: Unfavourable balance of costs and benefits; Good status prevented by A/HMWB designated use: Action to get biological element to good would have significant adverse impact on use.

Source EA Catchment Data Explorer

Table B-14: Costessey (Heigham WTW) Groundwater Source WFD Data

Waterbody	Type	Hydro morphological designation	Protected areas (directives)	Overall classification (2019 Cycle 3)	Overall waterbody objective
Wensum US Norwich	River	Heavily modified	Nitrates Directive; Drinking Water Protected Area; Special Area of Conservation; Safeguard Zone; Urban Waste Water Treatment Directive	Moderate	Disproportionately expensive: Disproportionate burdens; Technically infeasible: No known technical solution is available
Wensum DS Norwich	River	Heavily modified	Nitrates Directive; Safeguard Zone; Drinking Water Protected Area; Urban Waste Water Treatment Directive	Moderate	Good by 2027. Disproportionately expensive: Disproportionate burdens
Tud	River	Heavily modified	Special Area of Conservation; Nitrates Directive	Moderate	Disproportionately expensive: Unfavourable balance of costs and benefits
Yare (Wensum to tidal)	River	Heavily modified	Special Area of Conservation; Special Protection Area; Ramsar Site; Nitrates Directive; Urban Waste Water Treatment Directive	Moderate	Disproportionately expensive: Unfavourable balance of costs and benefits; Technically infeasible: No known technical solution is available

Waterbody	Type	Hydro morphological designation	Protected areas (directives)	Overall classification (2019 Cycle 3)	Overall waterbody objective
Spixworth (and Dobbs) Beck	River	Heavily modified	Special Area of Conservation; Special Protection Area	Moderate	Good by 2027 Disproportionately expensive: Disproportionate burdens
Broadland Rivers Chalk and Crag Groundwater Body	Groundwater Body	Not applicable	Nitrates Directive; Special Area of Conservation; Special Protection Area; Ramsar Site; Drinking Water Protected Area	Poor	Good by 2027 Disproportionately expensive: Disproportionate burdens
Costessey Pits	Lake	Artificial	Nitrates Directive; Drinking Water Protected Area; Safeguard Zone	Moderate	Good by 2027 Disproportionately expensive: Disproportionate burdens

Source EA Catchment Data Explorer

Table B-15: River Gt Ouse (Grafham Water) WFD Data

Waterbody	Type	Hydro morphological designation	Protected areas (directives)	Overall classification (2019 Cycle 3)	Overall waterbody objective
Ouse (Roxton to Earith)	River	Heavily modified	Nitrates Directive; Urban Waste Water Treatment Directive; Special Protection Area; Safeguard Zone; Ramsar Site; Drinking Water Protected Area	Moderate	Disproportionately expensive: Disproportionate burdens; Disproportionately expensive: Unfavourable balance of costs and benefits; Technically infeasible: No known technical solution is available
Old West River	River	Heavily modified	Nitrates Directive; Urban Waste Water Treatment Directive; Special Protection Area; Ramsar Site	Moderate	Disproportionately expensive: Disproportionate burdens; Disproportionately expensive: Unfavourable balance of costs and benefits; Technically infeasible: No known technical

Waterbody	Type	Hydro morphological designation	Protected areas (directives)	Overall classification (2019 Cycle 3)	Overall waterbody objective
					solution is available
Ely Ouse (South Level)	River	Artificial	Nitrates Directive; Urban Waste Water Treatment Directive; Special Protection Area; Ramsar Site	Moderate	Disproportionately expensive; Disproportionate burdens; Disproportionately expensive; Unfavourable balance of costs and benefits; Technically infeasible: No known technical solution is available
Old Bedford River / River Delph (inc The Hundred Foot Washes)	River	Artificial	Nitrates Directive; Special Protection Area; Ramsar Site; Special Area of Conservation	Moderate	Good by 2027 Disproportionately expensive; Disproportionate burdens; Disproportionately expensive; Unfavourable balance of costs and benefits; Technically infeasible: No known technical solution is available
Great Ouse	Transitional Water	Heavily modified	Urban Waste Water Treatment Directive; Special Protection Area; Ramsar Site; Special Area of Conservation; Shellfish Water Directive	Poor	Disproportionately expensive; Disproportionate burdens; Disproportionately expensive; Unfavourable balance of costs and benefits
Wash Inner	Transitional Water	Not designated artificial or heavily modified	Shellfish Water Directive; Special Protection Area; Ramsar Site; Special Area of Conservation; Urban Waste Water Treatment Directive; Nitrates Directive	Moderate	Disproportionately expensive; Disproportionate burdens; Disproportionately expensive; Unfavourable balance of costs and benefits
Wash Outer	Coastal Water	Not designated artificial or heavily modified	Shellfish Water Directive; Habitat and Species Directive;	Moderate	Disproportionately expensive; Unfavourable

Waterbody	Type	Hydro morphological designation	Protected areas (directives)	Overall classification (2019 Cycle 3)	Overall waterbody objective
			Conservation of Wild Birds Directive; Bathing Water Directive		balance of costs and benefits; Technically infeasible: Cause of adverse impact unknown

Source EA Catchment Data Explorer

Table B-16: River Nene (Pitsford Water) WFD Data

Waterbody	Type	Hydro morphological designation	Protected areas (directives)	Overall classification (2019 Cycle 3)	Overall waterbody objective
Nene - conf Whilton Branch to conf Brampton Branch	River	Not designated artificial or heavily modified	Nitrates Directive; Safeguard Zone; Drinking Water Protected Area	Poor	Moderate by 2027 Disproportionately expensive: Disproportionate burdens; Disproportionately expensive: Unfavourable balance of costs and benefits; Technically infeasible: No known technical solution is available
Nene - conf Brampton Branch to conf Ise	River	Heavily modified	Nitrates Directive; Special Protection Area; Ramsar Site; Urban Waste Water Treatment Directive	Moderate	Disproportionately expensive: Disproportionate burdens; Disproportionately expensive: Unfavourable balance of costs and benefits; Technically infeasible: No known technical solution is available
Nene conf Ise to Islip	River	Heavily modified	Nitrates Directive; Special Protection Area; Ramsar Site; Urban Waste Water Treatment Directive	Moderate	Disproportionately expensive: Disproportionate burdens; Disproportionately expensive: Unfavourable balance of costs and benefits;

Waterbody	Type	Hydro morphological designation	Protected areas (directives)	Overall classification (2019 Cycle 3)	Overall waterbody objective
					Technically infeasible: No known technical solution is available
Nene - Islip to tidal	River	Heavily modified	Special Protection Area; Ramsar Site; Nitrates Directive; Safeguard Zone; Drinking Water Protected Area; Urban Waste Water Treatment Directive	Moderate	Disproportionately expensive; Disproportionate burdens; Disproportionately expensive; Unfavourable balance of costs and benefits; Technically infeasible: No known technical solution is available
Pitsford Water	Lake	Artificial	Nitrates Directive; Safeguard Zone; Drinking Water Protected Area; Urban Waste Water Treatment Directive	Moderate	Good by 2027 Disproportionately expensive; Disproportionate burdens; Technically infeasible: Cause of adverse impact unknown

Source EA Catchment Data Explorer

Table B-17: Wellington Wellfield (Stoke Ferry & Marham WTW) WFD Data

Waterbody	Type	Hydro morphological designation	Protected areas (directives)	Overall classification (2019 Cycle 3)	Overall waterbody objective
Wissey-Lower	River	Heavily modified	Nitrate Directive; Special Area of Conservation; Drinking Water Protected Area; Urban Waste Water Treatment Directive; Safeguard Zone	Moderate	Good by 2027 Disproportionately expensive; Disproportionate burdens
Stringside Stream	River	Heavily modified	Nitrates Directive	Poor	Good by 2027 Disproportionately expensive; Disproportionate burdens; Natural conditions: Ecological recovery time;

Waterbody	Type	Hydro morphological designation	Protected areas (directives)	Overall classification (2019 Cycle 3)	Overall waterbody objective
					Technically infeasible: No known technical solution is available.
Old Carr Stream	River	Not designated artificial or heavily modified	Nitrates Directive	Moderate	Good by 2021 Disproportionately expensive: Disproportionate burdens
Gadder	River	Not designated artificial or heavily modified	Special Area of Conservation; Nitrates Directive	Moderate	Good by 2027 Disproportionately expensive: Disproportionate burdens
Little Ouse River	River	Heavily modified	Nitrates Directive; Special Area of Conservation	Moderate	Good by 2027 Disproportionately expensive: Disproportionate burdens

Source EA Catchment Data Explorer

Table B-18: River Nene (Rutland Water) WFD Data

Waterbody	Type	Hydro morphological designation	Protected areas (directives)	Overall classification (2019 Cycle 3)	Overall waterbody objective
Nene - Islip to tidal	River	Heavily modified	Special Protection Area; Ramsar Site; Nitrates Directive; Safeguard Zone; Drinking Water Protected Area; Urban Waste Water Treatment Directive	Moderate	Disproportionately expensive: Disproportionate burdens; Disproportionately expensive: Unfavourable balance of costs and benefits; Technically infeasible: No known technical solution is available
Mortons Leam	River	Artificial	Special Protection Area; Special Area of Conservation; Nitrates Directive	Poor	Good by 2027 Disproportionately expensive: Disproportionate burdens
Nene	Transitional Water	Heavily modified	Special Protection Area; Special Area of Conservation; Shellfish Water Directive; Ramsar Site	Moderate	Disproportionately expensive: Disproportionate burdens;

Waterbody	Type	Hydro morphological designation	Protected areas (directives)	Overall classification (2019 Cycle 3)	Overall waterbody objective
					Disproportionately expensive: Unfavourable balance of costs and benefits
Rutland Water	Lake	Artificial	Special Protection Area; Drinking Water Protected Area; Nitrates Directive; Safeguard Zone; Urban Wastewater Treatment Directive; Ramsar Site	Moderate	Good by 2027 Disproportionately expensive: Disproportionate burdens; Technically infeasible: Cause of adverse impact unknown

Source EA Catchment Data Explorer

B.4.1.3 Flood Risk

The Anglian Water area is one of the lowest lying and flattest regions in the country and therefore coastal and river flood risk is a significant concern. The Fens, an artificially drained area, is located within the Anglian Water area, with Holme Fen being the lowest point in the UK at approximately 2.75m below sea level (Association of Drainage Authorities, 2020).

The majority of the area is designated as Flood Zone 1, however there is a large area located within Flood Zone 3 around Fenland, Lincolnshire Bourne, Lincolnshire East, Lincolnshire Retford and Gainsborough and Lincolnshire Central WRZ (UK Government, 2026). There are also pockets of Flood Zone 2 across the Anglian Water area. The flood risk zones which related to fluvial and tidal flood risk are defined by the Environment Agency as:

- Flood Zone 1: Areas with low probability of flooding
- Flood Zone 2: Areas with medium probability of flooding
- Flood Zone 3: (a) Areas with high probability of flooding, (b) functional flood plain (where water regularly flows when overtopping river banks)

B.4.2 Future Baseline

Originally, the WFD set a target of aiming to achieve at least 'good status' in all water bodies by 2015. However, provided that certain conditions are satisfied, in some cases the achievement of good status has been delayed until 2027 or 2033. The primary objective in the short-term is to ensure no deterioration in status between status classes: the 2015 water body classification is the baseline from which deterioration between classes is assessed; no deterioration between status classes is permitted unless certain and specific conditions apply.

The NPPF (Ministry of Housing, Communities & Local Government, 2024) states that inappropriate development in areas at risk of flooding (in Flood Zone 1, Flood Zone 2, Flood Zone 3a or Flood Zone 3b - the functional floodplain) should be avoided by directing development away from areas at highest risk (whether existing or future). The NPPF requires that where development is necessary in such areas, it should be made safe without increasing flood risk elsewhere, as defined in Government Guidance on flood risk and coastal change (Ministry of Housing, Communities & Local Government, 2024).

The NPPF requires the application of a sequential, risk-based approach (operated through Strategic Flood Risk Assessment) to the location of development to avoid where possible flood risk to people and property and to manage any residual risk, taking account of the impacts of current and future

climate change. Following application of the Sequential Test, if it is not possible, consistent with wider sustainability objectives, for the development to be located in zones with a lower probability of flooding, the Exception Test can be applied if appropriate. This includes development for water-compatible uses (e.g. water transmission infrastructure and pumping stations) and essential infrastructure (e.g. water treatment works that need to remain operational in times of flood). The Government's 25-year Environment Plan looks to strengthen the relevant protections in the NPPF and, in addition, focus on using more natural flood management solutions, increase the uptake of sustainable drainage systems, improve resilience and recovery times of at-risk properties. Flooding poses a significant threat to heritage assets, with many at risk from river, coastal, surface water, groundwater, or sewer flooding. Reducing this risk is vital to protect their long-term value and significance (Historic England, n.d. a).

The National Framework for Water Resources highlights that if no action is taken between 2025 and 2050, around 3,435 million extra litres of water per day will be needed to address future pressures. In the East, it is anticipated that an additional 570Ml/d of public water supply will be required, with drought resilience responsible for almost half of this. Additionally, the East has the greatest demand from other users with 444 Ml/d required, 64% of which is for the agricultural industry (Environment Agency, 2020).

Anglian Water have collaborated with neighbouring water companies and other sectors to form Water Resources East (WRE) to produce a Regional Plan to build resilience to a range of uncertainties and future scenarios. This plan set out a preferred plan of actions for the region that delivers best value to customers, society and the environment and should include other sectors beyond public water supply. The final plan was produced by 2023 and directly feeds into the subsequent water company WRMPs.

UK Climate Projections (UKCP18) (2022) has found that climate change trends projected over UK land for the 21st century are broadly consistent with earlier projections showing an increased chance of milder, wetter winters and hotter, drier summers along with an increase in the frequency and intensity of extremes. This will increase the incidence rate of storms and flooding. It is likely that climate change may also contribute to shifts in the frequency and duration of intense storms during the summer months, resulting in more regular and widespread flash flooding from overburdened drainage systems and rivers.

The UK Climate Change Risk Assessment (CCRA) 2022 Evidence Report (HM Government, 2022) draws together and interprets the evidence gathered by CCRA regarding current and future threats and opportunities for the UK posed by the impacts of climate change up until 2100. Findings of the assessment include:

- Risks to infrastructure services from river, surface water and groundwater flooding
- Risks to public water supplies from reduced water availability
- Risks to health from water quality
- Decreased resilience of public water supply during dry weather
- Risk to soil health from increased flooding and drought
- Increased temperatures and extreme drought events

B.4.3 Key Issues

The key issues arising from the baseline assessment for water are:

- Ensure the protection, improvement and sustainable use of all water bodies to meet society's needs for a resilient water supply, particularly in light of potential climate change impacts.
- Ensure the appropriate management of water during times of drought.
- Ensure the integration of water issues and biodiversity, recognising the links between the two.
- The need to further improve water quality of the region's river, estuarine and coastal waters, taking into account WFD objectives.
- The need to maintain the quantity and quality of groundwater sources, taking into account WFD objectives. Ensure that people understand the value of water.

Flooding is not viewed as a key issue for the SEA water topic in relation to the Drought Plan because none of the drought management measures are likely to involve the construction of permanent physical infrastructure within areas at risk of flooding or contribute to an increase in flood risk.

B.5 SOIL, GEOLOGY AND LAND USE

B.5.1 Baseline

B.5.1.1 Land Use and Soils

The Anglian Water region is a key agricultural hub, with poultry, wheat, and fresh vegetables being the primary contributors to its agricultural output. The East of England has the second-largest average farm size of any English region, surpassing the national average of 88 hectares. As of 2023, the total farmed area of the East of England region (which makes up the majority of the Anglian Water supply area) was 1397 million ha, contributing to 15.5% of England's total farmed area (Defra, 2020).

The Agricultural Land Classification System, developed by Defra, assesses farmland quality primarily for planning purposes, categorizing land into five grades along with non-agricultural and urban land. The 'best and most versatile land' is typically defined as Grades 1, 2, and 3a. In the Anglian Water region, the agricultural land is predominantly Grade 2 and Grade 3, with some areas of urban and non-agricultural land, as shown in **Figure B-5**. The region includes some of the best and most versatile agricultural land in England, particularly in north Cambridgeshire and South Lincolnshire, where fertile soils derived from silt and peat deposits support a strong agricultural economy. The majority of arable crops grown in the region are cereals, rapeseed, and sugar beet.

Contaminated land is defined as land where substances could cause significant harm to people or protected species; or significant pollution of surface waters or groundwaters. Some types of contaminated land can be designated as special sites for a variety of reasons, including land that seriously affects drinking water, surface waters (e.g. lakes and rivers) and important groundwater sites. Data on contaminated land are compiled by the British Geological Society (UK Government, n.d.). Currently, there are approximately 2,517 historic landfills and 72 effective and 76 issued authorised landfill sites across the main Anglian Water region. There are 39 historic landfills and 5 authorised landfill sites in Hartlepool with 1 in effect (Environment Agency, 2024).

Soils are integral to sustainable development, serving multiple societal functions such as supporting agriculture, forestry, biodiversity, and construction. Importantly, they also hold archaeological significance, preserving buried artefacts and environmental evidence that offer insights into past human activities. Historic England emphasises that the preservation of archaeological remains in situ is often the preferred approach, as it maintains the integrity of the archaeological context and allows for ongoing study (Historic England, n.d. b). Therefore, protecting and managing soils not only supports ecological and economic objectives but also safeguards cultural heritage for future generations.

Minerals Safeguarding Areas (MSAs) are designated by Mineral Planning Authorities for areas that include known deposits of minerals which are desired to be kept safeguarded from unnecessary sterilisation by non-mineral development.

Peatlands including raised bogs and lowland fens, store large amounts of carbon in peat, which has built up over millennia because of the slow rates of decomposition of plant material in waterlogged conditions. This habitat is one of the most carbon-rich ecosystems on earth and the UK's peatlands store an astonishing 4500 million tonnes of carbon (Natural England, 2019). Unfortunately, many are in poor condition in England and releasing carbon. Natural England are working to restore peatlands directly on the sites they manage and advising other landowners on how to protect this vital ecosystem.

Figure B-6 shows the location of peaty soils within the SEA study area.

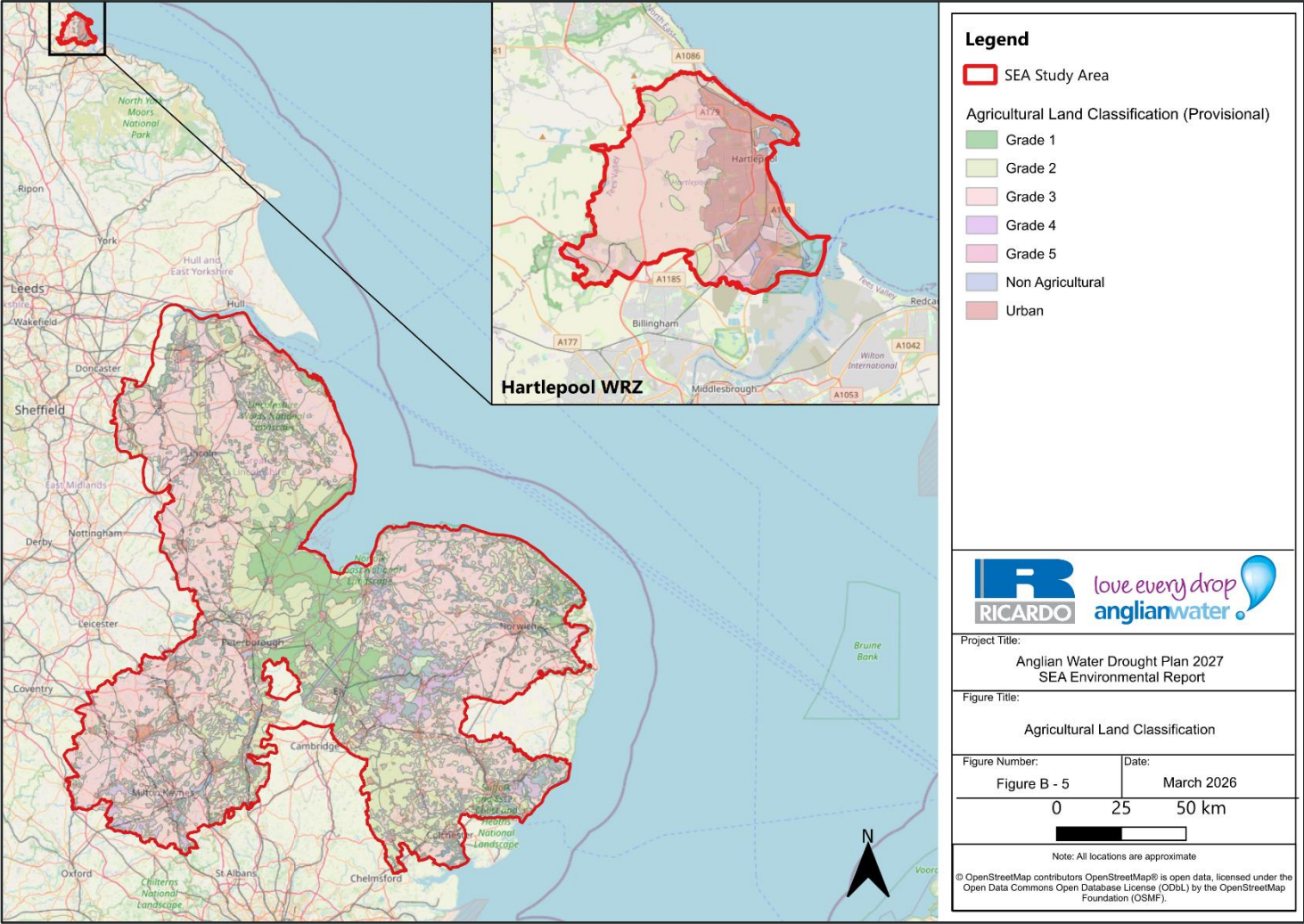


Figure B-5: Agricultural Land Classification in the SEA Study Area

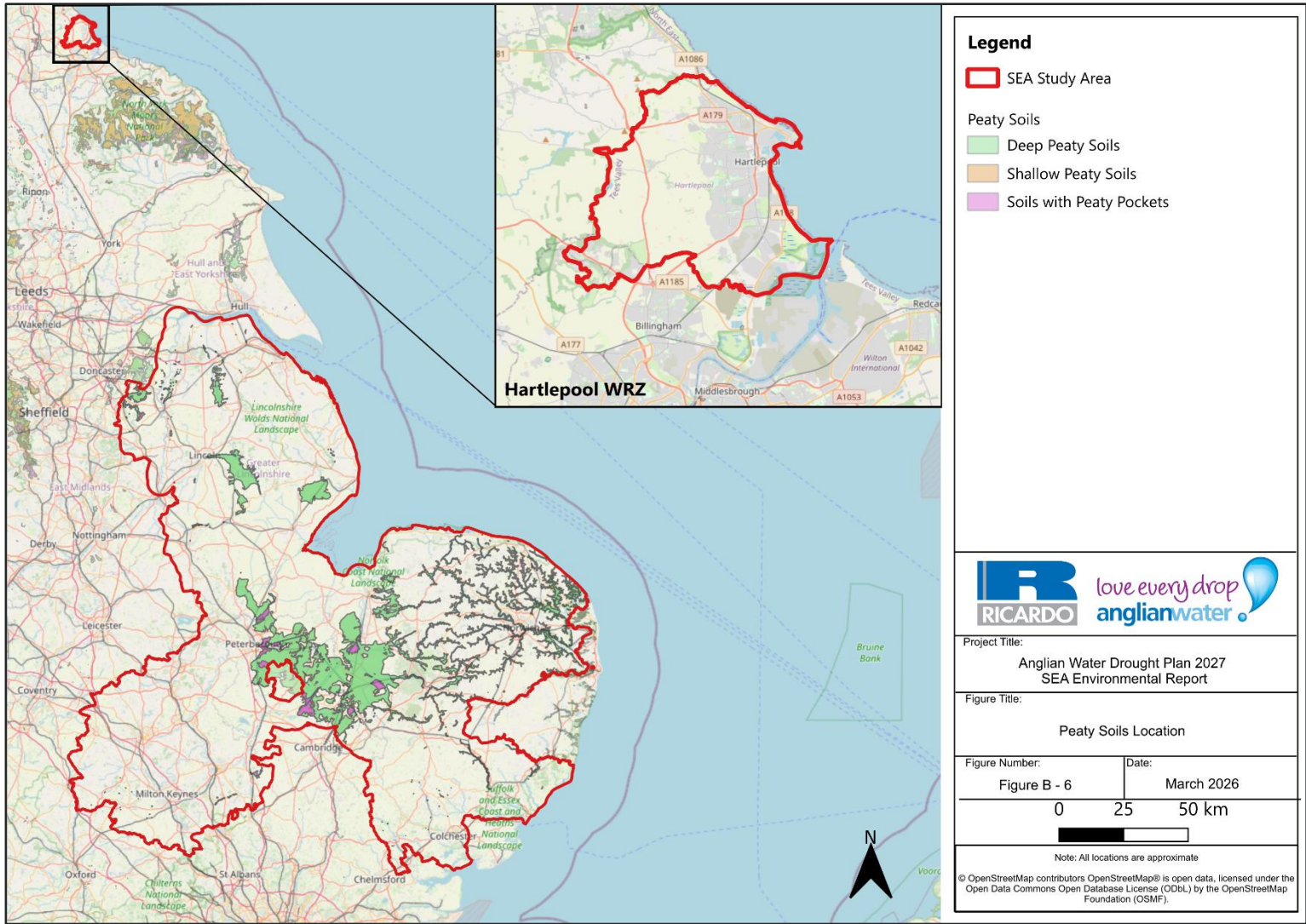


Figure B-6: Peaty Soils in the SEA Study Area

B.5.1.2 Geology

The geology of the region is highly diverse, with varying rock formations across different areas. In East Anglia, the youngest rocks, such as Crag Group sediments, are found in the shallow subsurface. Beneath these, Triassic, Jurassic, and Cretaceous sediments are present, with a continuous Jurassic-Cretaceous sequence in the west and north, capped by the Chalk Group. The south-east lacks Jurassic rocks, with Cretaceous Gault Clay and Chalk Group resting on older basement rocks. Older sedimentary rocks, including Devonian and Carboniferous age mudstones, limestones, and sandstones, are highly compacted and underlain by basement rocks, with the oldest Silurian to Cambrian basement rocks forming the foundation for the overlying sedimentary layers (Nuclear Waste Services, 2018a). In Eastern England, the youngest rocks are glacial deposits, with sedimentary rocks from Cretaceous to Permian age found beneath, including Jurassic deposits along the North York Moors. Carboniferous rocks, such as limestones and Coal Measures, lie deeper and are highly compacted. The oldest rocks, of Ordovician age or older, form the basement and include volcanic and granitic rocks (Nuclear Waste Services, 2018b).

Geological sites may be sensitive to changes in water quality, water levels (for example waterlogged deposits), pollution and land use practices. Geological Conservation Review (GCR) sites have been highlighted, which relate to geological important sites, related to their scientific elements and understanding of earth sciences, which are important on a national and international level (JNCC, 2020). GCRs are also designated as SSSIs. Several geological SSSIs are found within the study area, however some are not directly designated because of geology, although the geological variation does impact on the flora present. There are several GCRs within the Anglian Water study area.

Waterlogged archaeological remains are those that have remained consistently wet and deprived of oxygen since their deposition. Changes in water quality or levels pose significant risks to these remains, potentially compromising their preservation (National Trust, 2022; Historic England, 2016). Such changes may lead to the physical degradation of materials or may create contamination-related health and safety barriers that prevent future analysis.

Silt/sedimentation in the Lower Nene area, downstream of Wansford to Wisbech, has been an important issue, particularly regarding sediment transport. Over the years, the build-up of silt and sediment has raised concerns, especially during periods of drought, when water flow is reduced, exacerbating the deposition of sediment.

B.5.2 Future Baseline

The Government's 25-Year Environment Plan (25YEP) (HM Government, 2018) outlines how we must improve our approach to soil management, with a target for all England's soils to be managed sustainably and use natural capital thinking to develop appropriate soil metrics and management approaches. This builds on the earlier vision of Defra's Soils Strategy for England (Defra, 2009) for all England's soils to be managed sustainably and degradation threats tackled successfully by 2030. This will improve the quality of England's soils and safeguard their ability to provide essential services for future generations.

The White Paper on Water (Water UK, 2022) outlined the increased likelihood of agricultural drought by 2050. The paper estimated that 2% of agricultural land is currently classified as poor quality due to drought related impacts and that by 2050 this could increase by between 25 and 43%.

One of the core planning principles of the NPPF (Ministry of Housing, Communities & Local Government, 2024) is to encourage the effective use of land by reusing land that has been previously developed (brownfield land), provided that it is not of high environmental value. The NPPF also places great importance with respect to Green Belt policy; the aim of which is to prevent urban sprawl by keeping land permanently open.

Green Belt serves five purposes:

- to check the unrestricted sprawl of large built-up areas;
- to prevent neighbouring towns merging into one another;
- to assist in safeguarding the countryside from encroachment;
- to preserve the setting and special character of historic towns;
- and to assist in urban regeneration, by encouraging the recycling of derelict and other urban land.

Although the NPPF promotes a presumption in favour of sustainable development, this does not apply where proposed developments may affect European or other designated sites covered by specific policies.

There are a number of Environmentally Sensitive Areas (ESAs) in the Anglian Water area including Breckland, Essex Coast, Broad, Suffolk River Valleys and Upper Thames Tributaries (Natural England, 2024b). The ESA Scheme was established to safeguard and improve the environment by providing financial incentives to landowners and occupiers to implement environmentally beneficial farming practices. This scheme has since been replaced by the Environmental Stewardship Scheme, and ongoing developments are anticipated to lead to further improvements in land use in the future.

Ongoing research (Forest Research, 2024) is focused on understanding the effects of drought on different tree species, provenances, and sites. Climate change projections predict an increase in extreme drought events, emphasising the need to assess risks to trees and adopt adaptation strategies. Drought-induced water stress can result in reduced growth, crown dieback, and tree mortality, along with secondary consequences like heightened wildfire risk and increased vulnerability to pests and diseases. Potential adaptation strategies include diversifying tree species, promoting mixed-species stands, encouraging natural regeneration, and applying specific establishment and management practices to improve forest resilience to drought and other climate change challenges.

B.5.3 Key Issues

The key sustainability issues arising from the baseline assessment for soil, geology and land use are:

- The need to protect and enhance geological features of importance (including geological SSSIs) and maintain and enhance soil function and health.
- The need to manage the land more holistically at the catchment level, benefitting landowners, other stakeholders, the environment and sustainability of natural resources (including water resources).
- The need to protect and restore peatlands and habitats to reduce impacts of climate change.
- The need to make use of previously developed land (brownfield land) and to reduce the prevalence of derelict land in the region, recognising the biodiversity value of some sites and need for a site-specific approach.

B.6 AIR AND CLIMATE

B.6.1 Baseline

B.6.1.1 Climatic Factors

Current Trends in the UK

The Central England Temperature dataset is the longest running instrumental record of temperature in the world. According to this data, the most recent decade (2009-2018) was approximately 1°C warmer than the pre-industrial period (1850-1900), aligning with global temperature trends. The 21st century has so far been warmer than the previous three centuries (UKCP18, 2022).

Over the decade 2009-2018, winters in the UK saw an average increase in rainfall, being 5% wetter than the 1981-2010 period and 12% wetter than 1961-1990. Similarly, summers have experienced higher levels of precipitation, with an 11% increase compared to 1981-2010 and a 13% increase compared to 1961-1990. Much of eastern England experiences less than 700 mm of rainfall annually, making it one of the driest areas in the country (Met Office, n.d.).

Regional climate observations have been prepared across the UK by the Met Office. See **Table B-19** for a summary of the observations for Eastern England.

Table B-19: The Climate of Eastern England Climate

Climatic Condition	Climate Projections
Temperature	The average annual temperatures vary from around 10.5°C in central areas to 9.5°C closer to the coast or at higher elevations. January is the coldest month, with daily minimum temperatures ranging from just above 2°C along the coast to 0.5°C in the inland higher ground. July, the warmest month, sees daily mean maximum temperatures of 23°C. Extreme maximum temperatures, often linked to heatwaves lasting several days, can occur in either July or August.
Precipitation	In most of the region, there are typically around 30 days of rain (with more than 1 mm of rainfall) during the winter months (December to February), and fewer than 25 rainy days in summer (June to August). The highest average number of rain days occurs at higher altitudes.
Sunshine	Across the region, annual sunshine hours vary, with most of Lincolnshire and East Yorkshire averaging around 1,450 hours per year, while areas in east Norfolk, Suffolk, and Essex receive over 1,600 hours of sunshine annually.
Snowfall	In the lower-lying areas of Eastern England, the average number of days with snowfall is between 6 and 15 per year. However, in higher elevation areas, the average number of snow days can reach around 30 annually.
Wind	Eastern England is one of the more sheltered regions of the UK, as the windiest areas are found to the north and west, closer to the path of Atlantic storms. Most of East Anglia and Lincolnshire experience no more than 2 days of gales annually, while exposed coastal areas average about 5 gale days per year.

Projected Changes

The UK Climate Projections (UKCP) were updated for the first time since 2009 in December 2018 (UKCP18) (UKCP18, 2022). The UKCP18 are largely the same as the previous projections where all areas of the UK are projected to be warmer, particularly during summer months. Rainfall is projected to vary seasonally and at a regional scale, however the UK is projected to have wetter winters and drier summers.

The projected changes in temperature and precipitation for the Anglian River Basin by the 2050s (2040-2069), under the RCP8.5 scenario are detailed in **Table B-20**. The 1981-2010 baseline period and the central estimate, representing ‘as likely as not’ probability of change (50th percentile), was used for the following projections.

Table B-20: Anglian River Basin UKCP18

Climatic Condition	Climate Projections
Temperature	Annual mean temperatures are projected to increase by 2-3°C. Summer temperatures are projected to see the largest increase by 3-4°C and winter temperatures by 2°C. Mean maximum summer temperatures are projected to increase by 3-4°C.
Precipitation	Annual mean precipitation is projected to decrease by 2%. Seasonal variability is projected with a 20-30% decrease in precipitation during summer months and an increase of 5-15% during winter months.

Source: UKCP18 using the central probability estimate for a RCP8.5 scenario

Greenhouse Gas Emissions

The severity of climate change impacts will depend on how effectively greenhouse gas emissions are reduced, influencing future risks such as drought, flooding, and coastal erosion (Natural England, 2020). The East of England ranks as the third-largest emitter of greenhouse gases among English regions when accounting for emissions from land use and agriculture. Excluding these factors, it drops to the fifth-highest (University of East Anglia and Tyndall Centre for Climate Change Research, 2023).

A significant contributor to the region's greenhouse gas emissions is land use, land use change, and forestry (LULUCF), which is recognised as a major source of emissions in the area [Department for Energy Security & Net Zero (DESNZ), 2023]. As of 2023, there has been little to no progress in reducing emissions from the transport sector, which remains the largest source of emissions in approximately 40% of local authority areas across the UK. Freight transportation plays a key role in the region's overall emissions, particularly due to the movement of imports and agricultural goods. As a result, transitioning to more sustainable and eco-friendly freight systems has become a key priority for mitigating emissions in the region (University of East Anglia and Tyndall Centre for Climate Change Research, 2023).

Anglian Water's Performance

Anglian Water is dedicated to cutting its carbon emissions and is making significant progress toward its sustainability goals. The company aims to generate 45% of its energy from renewable sources by 2025 and is working towards becoming a fully net-zero carbon business by 2030 (Anglian Water, 2024e).

In the 2023/24 period, Anglian Water's carbon emissions totalled 346,560 tCO2e, reflecting a 2.7% reduction (equivalent to a decrease of 9,791 tCO2e) compared to the 2018/19 baseline. The company's use of renewable energy has risen from 25% to 28%, and it is continuing to transition to even more renewable sources in pursuit of its targets for 2025 and 2030. Anglian Water is also focused on reducing its capital carbon emissions. Since the start of this AMP cycle (2020), completed projects have achieved a 66% reduction in capital carbon, equating to a saving of 76,114 tCO2e. This reduction includes projects from the planning phase through to completion within the current AMP cycle (Anglian Water, 2024f).

B.6.1.2 Air

Air quality in the region is generally good, although there are over 40 declared Air Quality Management Areas (AQMAs) with the Anglian Water Area (Defra, 2024d). Motor vehicles, particularly on heavily trafficked roads,

are the main source of air emissions (University of East Anglia and Tyndall Centre for Climate Change Research, 2023). However, agriculture also contributes to the local air quality (Department for Energy Security & Net Zero, 2023), as a result of housed livestock and the spreading of slurries and manures. Trends in annual average emissions of nitrogen dioxide (NO₂), sulphur dioxide (SO₂) and particulate matter (PM₁₀) show the East of England is on track to meet the UK Air Quality Strategy Targets.

B.6.2 Future Baseline

In 2019, the UK set a new target to reduce greenhouse gas emissions to net zero (compared to 1990 levels) by 2050, an update from the previous target of an 80% reduction as set out in the Climate Change Act 2008, as amended. To date, the UK has hit all its carbon budgets. In 2021 the government published the Net Zero Strategy (DESNZ & BEIS, 2021) which sets out policies and proposals for decarbonising all sectors to meet the net zero target by 2050. To achieve this ambition, emissions from buildings must reduce to almost zero and industrial processes will need to adapt, both of which are significant to Anglian Water's operations.

The UK is currently meeting all statutory air quality limits, except for nitrogen dioxide (NO₂), where roadside NO₂ concentrations in particular have been identified as being above legal limits. In response, the government has created an air quality plan for NO₂ (Defra and DfT, 2017), setting out how it aims to meet the ambitious and legally-binding targets set out for NO_x in the shortest time possible. The wider Clean Air Strategy (Defra, 2019) also sets out plans for four other damaging air pollutants.

Climate change is a key theme with regards to biodiversity (Defra, 2011; Natural Environment White Paper The Natural Choice: Securing the Value of Nature, 2011) and is likely to have an impact on biodiversity in the future by exacerbating pressures such as changes to the timing of seasonal activity and water scarcity. The CCRA (HM Government, 2022) considered more than 700 risks and selected 100 risks for detailed review.

Anglian Water has developed a net-zero roadmap outlining a three-step approach to manage and reduce emissions. This includes decarbonising its electricity supply and vehicle fleet, as well as removing or offsetting residual emissions by planting 50 hectares of woodland. The company is also implementing various innovative projects, such as utilising natural wetlands to recycle water and harnessing solar energy, among other initiatives (Anglian Water, 2024e). These initiatives are designed to help Anglian Water gain a deeper understanding and better manage the water cycle, enabling the company to maintain high standards of customer service in a cost-effective manner. Additionally, these projects aim to deliver a range of benefits for people, wildlife, and the environment, supporting the company's broader sustainability goals.

B.6.3 Key Issues

The key sustainability issues arising from the baseline assessment for air and climate are:

- Comply with targets for reductions in greenhouse gas emissions and mitigate against climate change.
- Ensure resilience against the impacts of climate change through, for example, sustainable water resource management and water efficiency.
- Recognising the relationship between peat soils and carbon.

B.7 ARCHAEOLOGY AND CULTURAL HERITAGE

B.7.1 Baseline

B.7.1.1 Historic Environment

Implementation of drought actions could affect historic landscape character and historic structures associated with the water environment and the historical context of their setting. Archaeological remains are sensitive to changes in water quality, water levels (for example waterlogged deposits), pollution and land use practices. Within the Anglian Water supply area, there are 50,382 listed buildings (**Table B-21**), reflecting the region's rich historic environment. Grade I buildings make up about 4% of the total listed structures, highlighting the most exceptional heritage assets. Grade II* buildings account for roughly 6%, representing particularly important buildings. The vast majority, approximately 89%, are Grade II, reflecting a broad commitment to preserving buildings of special interest. The high number of these heritage assets highlights the need for careful consideration of potential impacts when working near sensitive sites.

Nationally important archaeological sites are statutorily protected as Scheduled Monuments (UK Government, 1979). There are over 19,000 Scheduled Monuments on the National Heritage List for England (Historic England, 2024a). As of 2024, approximately 1,963 Scheduled Monuments were located within the SEA study area. Registered Parks and Gardens also contribute to the UK's heritage, with 1,716 across England and 207 situated within the study area. Of the 5,464 heritage assets listed on the Heritage at Risk Register, 603 are found within the SEA boundary. Counts of all heritage assets in the Anglian Water SEA study area are provided in **Table B-21**. Heritage assets, Listed buildings and Heritage at Risk are shown in **Figure B-7**, **Figure B-9** and **Figure B-9** respectively.

Table B-21: Heritage counts in Anglian SEA Study Area (2020 (Historic England, 2024b))

	SEA Study Area		England
	Main Supply Area	Hartlepool	
World Heritage Site	0	0	19
Scheduled Monuments	1,963	8	19,977
Listed Buildings	50,382 Grade I 1,940 Grade II* 3,167 Grade II 45,275	156 Grade I 3 Grade II* 145 Grade II 8	379,469
Registered Historic Parks and Gardens	207 Grade I 17 Grade II* 52 Grade II 138	2 Grade II* 1 Grade II 1	1,716
Registered Historic Battlefields	4	0	47
Protected Historic Wrecks	0	1	57
Conservation Areas	1028	8	10,000
Heritage at Risk	603	9	5,464



Figure B-7: Heritage Assets in the SEA Study Area

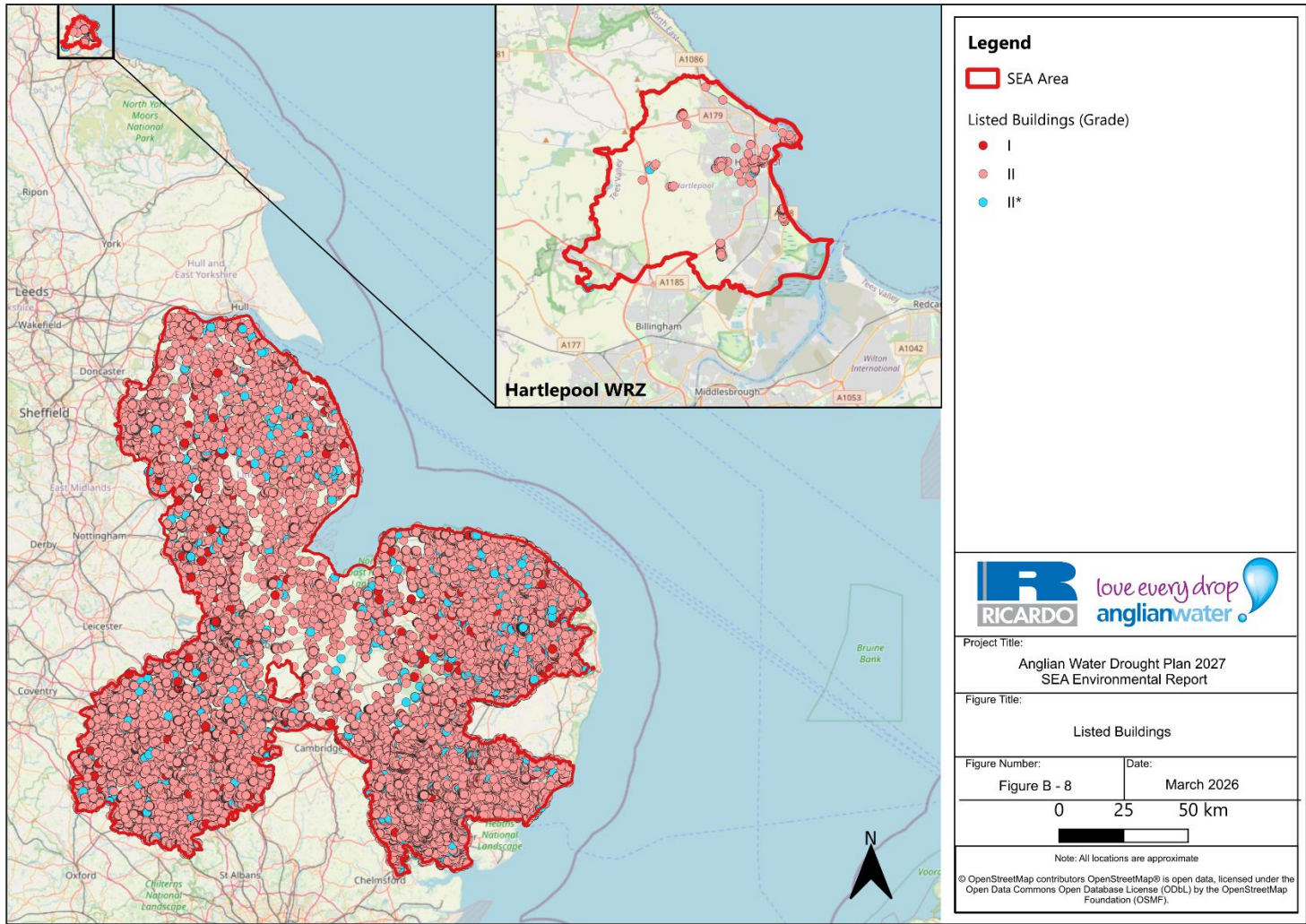


Figure B-8: Listed Buildings in the SEA Study Area

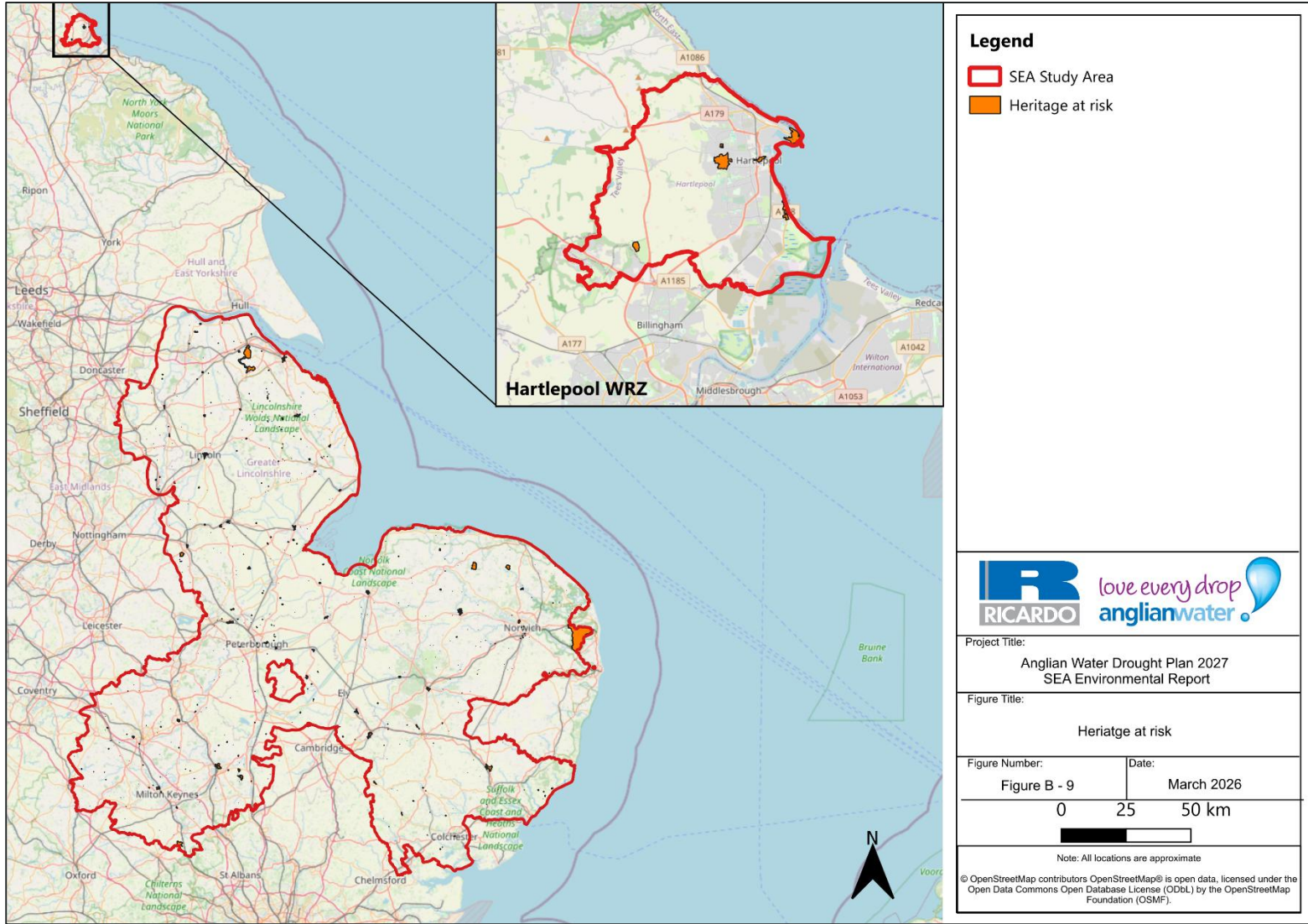


Figure B-9: Heritage at Risk in the SEA Study Area

Conservation Areas are usually designated by the local planning authority and are designated for their special architectural and historic interest. Conservation Areas can include historic town and city centres, fishing and mining villages, 18th and 19th century suburbs, model housing estates, country houses set in historic parks and/or historic transport links and their environment. There are over 8,000 conservation areas in England. Individual local authorities provide details on specific conservation areas.

Historic England has been collecting data on buildings at risk for more than a decade. The National Heritage at Risk Register (Historic England, n.d. c) systematically checks the condition of buildings, initially focused on buildings at risk, but now adapted to serve other types of heritage asset. There are 4,891 designated assets on the Heritage at Risk register in 2024, including 427 sites in the East of England (**Figure B-9**). In 2024, 124 historic buildings and places have been removed for positive reasons whilst 155 were added, indicating significant challenges ahead (Historic England, 2024c).

Historic Environment Record (HER) databases linked to a Geographic Information System (GIS) are held by County Councils, District Councils or Unitary Authorities. They represent unique repositories of, and signposts to, information relating to landscapes, buildings, sites and artefacts spanning from the Palaeolithic period to modern times. Presenting the full breadth of HER data for the Anglian Water SEA study area would be challenging and falls outside the scope of an SEA.

In 2023, 110 archaeological sites were classed as currently at risk in the East of England (Historic England, 2020a) and a further 199 sites in the Midlands (Historic England, 2020b), however only a small proportion of these fall into the SEA study area. There are no designated areas of archaeological importance located within Anglian Water's region. Local Authorities have records of regional or local important archaeology which would be too much information to list here.

Buried archaeology (both designated and non-designated) is especially vulnerable to fluctuations in water levels, which could impact the setting of heritage assets. While it can be challenging to identify all unknown heritage assets within a given study area, there is an understanding that such assets likely exist and may be impacted by development or environmental changes. It is crucial to recognise that the impacts on the historic environment extend beyond the physical structures themselves; they also affect scientific methods such as pollen analysis, which provides insights into past environments, and radiocarbon dating, which helps establish chronological timelines. Therefore, areas with known or potential buried archaeological remains must be carefully managed. Specialist advice should be sought to determine the most appropriate course of action to mitigate potential impacts and ensure the preservation of these valuable resources.

Similarly, non-designated archaeology is vulnerable to changes in water-levels may potentially be impacted by the proposed drought management actions. However, given that the nature of the drought actions to be implemented is currently unknown and that construction is likely to be minimal, likely significant effects are not anticipated but a similar approach will need to be followed as with buried archaeology.

B.7.2 Future Baseline

Core planning principles in the NPPF include those aiming to protect heritage assets, including to conserve heritage assets *“in a manner appropriate to their significance, so that they can be enjoyed for their contribution to the quality of life of existing and future generations”* (Ministry of Housing, Communities & Local Government, 2024).

Recent and ongoing national economic difficulties may have an adverse effect on removing heritage assets from the heritage at risk register. Climate change could have variable impacts on heritage assets in the future. Some types of assets and landscapes have already experienced and survived significant climatic changes in the past and may demonstrate considerable resilience in the face of future climate change. However, many more heritage assets are potentially at risk from the direct impacts of future climate change (Historic England, 2024d).

B.7.3 Key Issues

The key sustainability issues arising from the baseline assessment for archaeology and cultural heritage are:

- Encourage public awareness through promoting important heritage assets.
- The need to conserve and enhance heritage assets and the contribution made to their significance by their settings, particularly those which are sensitive to the water environment.

- Consideration of siting of actions to avoid and reduce effects on heritage assets and their settings
- The need to protect buried or waterlogged archaeological and paleoenvironment remains.
- The need to prevent further harm to heritage assets at risk due to development pressures;
- Consideration of areas where there is likely to be further significant loss or erosion of landscape/seascape/townscape character or quality, or where development has had or is likely to have significant impact (direct and or indirect) upon the historic environment and/or people's enjoyment of it
- Consideration of the vulnerability of heritage assets to drought conditions

B.8 LANDSCAPE AND VISUAL AMENITY

B.8.1 Baseline

The NPPF (Ministry of Housing, Communities & Local Government, 2024) emphasises that planning policies and decisions should aim to protect and improve the natural and local environment, including the preservation and enhancement of significant landscapes. Certain landscapes are considered special due to their amenity value, such as those designated as National Landscapes (previously known as Areas of Outstanding Natural Beauty). Other landscapes may be valued for their uniqueness or as the last remaining examples of a specific landscape type. Some landscapes are more vulnerable to development, while others can better accommodate it. Landscape character and sensitivity assessments, together with Historic Landscape Characterisation, are essential for identifying and interpreting the diverse heritage assets within an area. These assessments inform planning decisions by highlighting the most appropriate locations for development, with the goal of minimising adverse impacts on the landscape's historic and visual qualities.

B.8.1.1 Nationally designated sites

There are five National Landscapes in the Anglian Water area: The Chilterns, Dedham Vale, Lincolnshire Wolds, Norfolk Coast, and Suffolk Coast and Heaths, and one National Park, The Broads (see Figure B-10). In addition, the region is the agricultural heartland of England, with arable farming playing a dominant role in shaping the rural landscape. The Anglian region boasts a diverse and contrasting topography, featuring expansive flat landscapes dedicated to intensive arable farming, alongside extensive coastal areas that span Norfolk, Suffolk, Essex and Lincolnshire. This combination of agricultural and coastal environments contributes to the region's unique character and ecological variety.

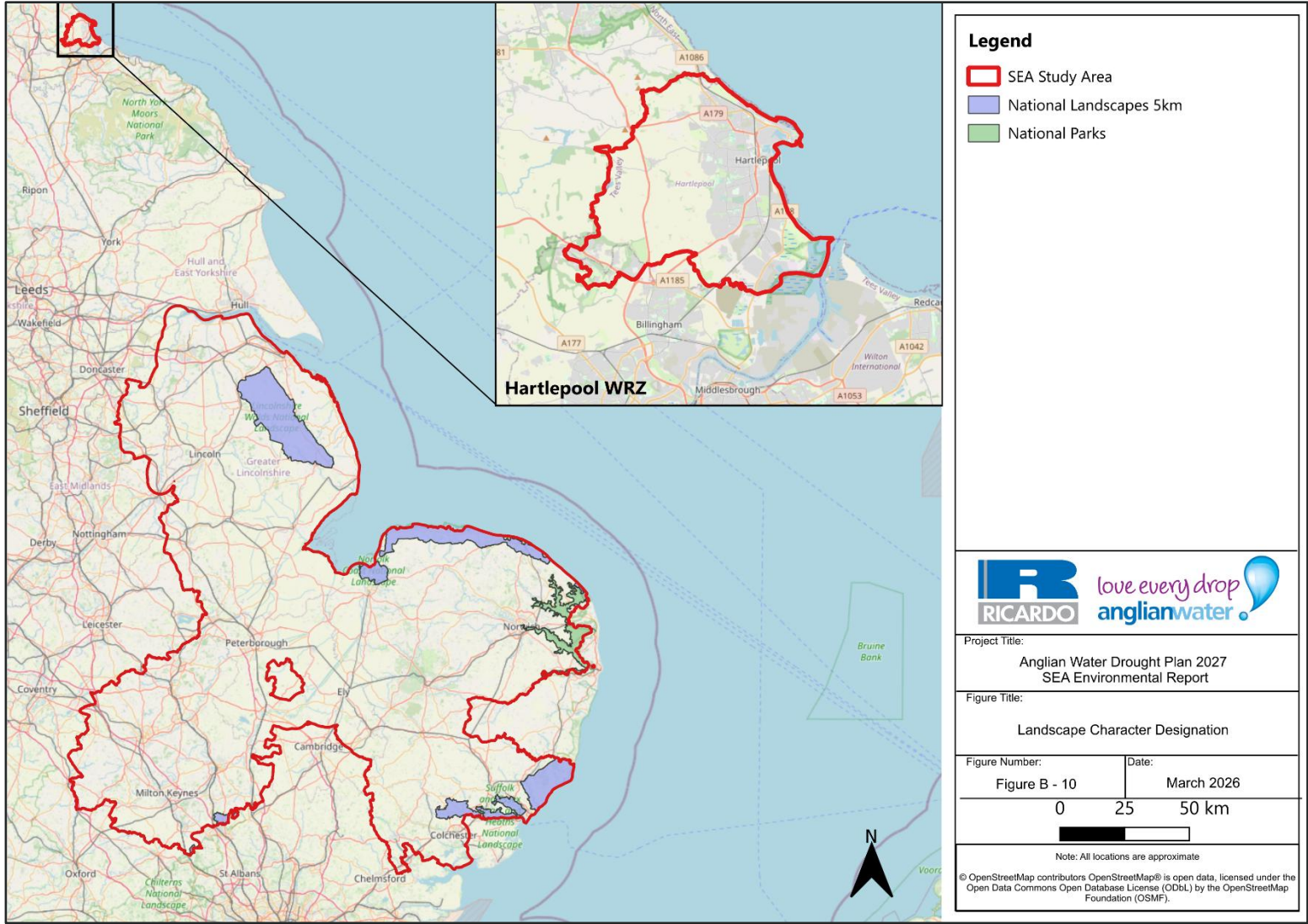


Figure B-10: Landscape Character Designations in the SEA Study Area

National Character Areas (NCAs) are distinctive landscapes which make up the countryside character. The following NCAs (Natural England, 2024c) are relevant for the DP27:

- **39 Humberhead Levels (NE339)** – The landscape is characterised by a flat, low-lying, and expansive agricultural expanse, bordered to the west by the gentle ridge of the Southern Magnesian Limestone, and to the east by the Yorkshire Wolds (north of the Humber) and the Northern Lincolnshire Edge with Coversands (south of the Humber). To the north, it transitions into the slightly undulating terrain of the Vale of York, marked by the Escrick Moraine, while to the south, it blends into the Trent and Belvoir Vales and the Sherwood region. This intricate geographical boundary defines the area's varied topography and land use.
- **46: The Fens (NE424)** – The region is characterised by a vast, low-lying, flat landscape interspersed with numerous drainage ditches, dykes, and rivers that gradually flow towards The Wash. The area is renowned for its expansive vistas, where the level, open topography creates the impression of endless skies, evoking a profound sense of place, tranquillity, and inspiration. This unbroken horizon, coupled with the natural water systems, enhances the region's serene and expansive atmosphere.
- **48: Trent and Belvoir Vales (NE429)** – The landscape is characterised by gently undulating terrain, predominantly rural, with extensive areas of arable farmland centred around the River Trent. This low-lying rural area has limited woodland cover, offering expansive, uninterrupted views across the countryside. The open, agricultural vistas contribute to the area's sense of openness and tranquillity.
- **76 North West Norfolk (NE520)** – The region is characterised by an expansive, rolling topography that contrasts sharply with the surrounding coastal, fenland, and other lowland NCAs. The landscape is dominated by large-scale arable and grassland farming, which plays a vital role in local agriculture. Beneath the surface, aquifers extend well beyond the NCA's boundaries, supplying essential water both locally and regionally.
- **78 Central North Norfolk (NE526)** – This is a landscape of ancient countryside, shaped by centuries of settled agriculture. Arable fields are enclosed by winding lanes and hedgerows, interspersed with pockets of woodland and remnants of heathland, all crisscrossed by lush pastoral river valleys. The landscape is a patchwork of cultivated land, dotted with numerous church spires, framed by distant wooded horizons, and defined by expansive skies, creating a timeless and picturesque scene.
- **81 Greater Thames Estuary (NE473)** - The landscape is predominantly remote and tranquil, defined by shallow creeks, drowned estuaries, low-lying islands, mudflats, and vast expanses of tidal salt marsh and reclaimed grazing marsh, all situated between the North Sea and the rising inland terrain. Sea defences safeguard large areas of reclaimed grazing marsh, along with its ancient fleet and ditch systems, as well as productive arable farmland. Historic military landmarks are prominent features, adding to the distinctive character of this coastal landscape.
- **84 Mid Norfolk (NE523)** – Located in the northern section of the East Anglian Plain, this predominantly flat, rural landscape is steeped in ancient countryside and a long-settled agricultural heritage. Arable fields are bordered by winding lanes and hedgerows, interspersed with patches of woodland and heath, and crisscrossed by lush, pastoral river valleys. The landscape is a patchwork of cultivated land, dotted with numerous church spires, framed by distant wooded horizons, and defined by expansive skies, creating a serene and timeless rural scene.
- **85 The Brecks (NE385)** - Also known as Breckland, this region lies at the heart of East Anglia, encompassing much of south-western Norfolk, north-western Suffolk, and a small portion of north-eastern Cambridgeshire. The area boasts an ancient identity, shaped by a unique history of land use and a richly distinctive wildlife, which distinguishes it from the surrounding landscapes.
- **86 South Suffolk and North Essex Claylands (NE515)** - It is an ancient landscape of wooded arable countryside with a distinct sense of enclosure. The overall character is defined by a gently undulating chalky boulder clay plateau, with the undulations shaped by numerous small river valleys that cut through the land. The region features a complex network of species-rich hedgerows, ancient woodlands, parklands, and meadows, interspersed with streams and rivers that flow eastwards, enhancing the area's natural beauty and biodiversity.
- **88 Bedfordshire and Cambridgeshire Claylands (NE555)** - The NCA is a broad, gently undulating lowland plateau, intersected by shallow river valleys that gradually widen as they approach The Fens NCA to the east. It encompasses the Forest of Marston Vale, one of 12 Community Forests in England, and a small section of the Chilterns National Landscape (formerly AONB) around Luton. Predominantly

an arable and commercially farmed landscape, the NCA also hosts a range of seminatural habitats, including internationally important sites that support rare and endangered species, offering ample opportunities for people to connect with the natural environment.

- **89 Northamptonshire Vales (NE527)** – The area consists of a series of low-lying clay vales and river valleys, including the valleys of the rivers Nene and Welland and their tributaries. Approximately 10 percent of the region is urban, with settlements often being visually dominant in the landscape.
- **91 Yardley-Whittlewood Ridge (NE501)** - The Ridge is a low, gently undulating limestone plateau, rich in semi-natural habitats such as ancient woodlands, wood pasture, parkland, hedgerows, lowland meadows, and floodplain grazing marshes. It is home to a high proportion of nationally important ancient woodlands, designated as SSSI, which support a variety of species, including rare butterflies like the white admiral and wood white. The area retains its rural character, with a sparse population and few major settlements.
- **92 Rockingham Forest (NE538)** - The landscape is characterised by a broad, low, undulating ridge formed from Jurassic limestone, descending from a prominent northern scarp that overlooks the Welland Valley. Large areas of woodland remain a key feature, often merging visually with hedgerow trees and smaller copses, creating the impression of extensive woodland cover. The area is a patchwork of woodland and medium to large fields of mixed arable and pastoral land, surrounding small nucleated villages. Fields are typically bordered by well-maintained hedgerows with mature trees or drystone walls, and display a rectilinear enclosure pattern, set within older, more irregular enclosures, winding lanes, and watercourses.
- **111 Northern Thames Basin (NE466)** - The area is rich in geodiversity, archaeology, and history, featuring diverse landscapes that range from the wooded Hertfordshire plateaux and river valleys to the open, predominantly arable terrain of the Essex heathlands, interspersed with areas of urbanisation. Urban expansion has significantly shaped the region, leading to increased pressure from housing developments, schools, and other infrastructure needed to accommodate a growing population. This expansion has resulted in a decline in tranquillity across the area.

Some of these landscapes are also recognised as important cultural landscapes, with a strong heritage value. These areas may contain deposits and sediments, such as peat, which have significant paleoenvironmental potential, offering insights into past environments and human activity. The DP27 has the potential to influence the landscape and visual amenity through the change in water levels of rivers and reservoirs (either beneficially or adversely).

B.8.2 Future Baseline

It is envisaged that landscape and designated sites will be maintained and enhanced for the enjoyment of the public (although not through the DP27 itself).

The NPPF (Ministry of Housing, Communities & Local Government, 2024) highlights the distinct roles and characteristics of various areas, advocating for the vitality of urban centres while safeguarding the surrounding Green Belts. It also acknowledges the inherent beauty and character of the countryside, supporting prosperous rural communities. The NPPF stresses the importance of conserving the landscape and scenic beauty of National Parks and National Landscapes, granting them the highest level of protection. It specifies that major developments within these designated areas should generally be refused, barring exceptional cases where it can be proven that the development serves the public interest.

B.8.3 Key Issues

The key sustainability issues arising from the baseline assessment for landscape and visual amenity are:

- The need to protect and improve the natural beauty of the region's National Landscapes (AONBs), National Parks and other areas of natural beauty.
- The need to protect and improve the character of landscapes and townscape.

APPENDIX C: STATUTORY CONSULTEE SCOPING COMMENTS AND RESPONSES

Table C-1: Historic England Statutory Consultee Scoping Comments and Responses

Report Section	Issue/Comment	Comments Addressed in Environmental Report
General	General Comments We recommend that these comments should be read alongside our Advice Note 8 on Sustainability Appraisal and SEA - https://historicengland.org.uk/images-books/publications/sustainability-appraisal-and-strategic-environmental-assessment-advice-note-8/heag036-sustainability-appraisal-strategic-environmental-assessment/. We have provided responses to the specific questions (in blue) posed in the presentation at the webinar on 22nd January. We welcome the consideration of the historic environment as part of the SEA process.	Noted.
1 Introduction	P7 We note that the Scoping Report refers to 6 supply options. This response is not the place to provide detailed comments on those options. However, we look forward to receiving more detail about these options as well as the opportunity to comment. P9 Para 1.2.3.5 Should this say Yorkshire? P9 Section 1.3 Should this also include heritage assets?	P7 - Further detail has been added to Table 1-1 in the Environmental Report P9 - The error noted in section 1.2.3.5 in the Scoping Report has been corrected. P9 - Reference to heritage assets has been added to the list of protected habitats in Section 1.6.
2 Baseline and Context	Question 1 Do you think that this Scoping Report sets out sufficient information to establish the context for the SEA of the draft Drought Plan in terms of the review of relevant plans and programmes and baseline evidence and analysis? a. Have all the relevant plans and programmes been identified? Are there additional plans and programmes that should be considered?	
2.2 Review of Policies, Plans and Programmes	We welcome the Review of Relevant Policies, Plans and Programmes in Chapter 2, Table 2-1 and Appendix A. The list and review provides a helpful starting point. When considering key policies, plans and programmes, we also recommend the inclusion and consideration of the following: International/European • UNESCO World Heritage Convention National • Marine and Coastal Areas Access Act 2009 • National Planning Policy Framework (2024) Local • Local Plans • Historic Environment Record • Heritage/Conservation Strategies • Other Strategies (e.g. cultural or tourism) • Conservation Area Character Appraisals and Management Plans • Listed building Heritage Partnership Agreements As a general point, the documents included in the 'policy' column for Archaeology	Reference to relevant policies, plans and guidance has been added to Table 2-1 and Appendix A in the Environmental Report. The text above Table 2-1 and Appendix A has been updated to include the term guidance. Policies and Strategies added to Table 2-1 and App A are as follows: • UNESCO (1972) World Heritage Convention • HM Government (2009) Marine and Coastal Areas Act • Historic England (2024) Peatlands and the Historic Environment • Historic England (2019) Conservation Area Appraisal, Designation and Management Historic England Advice Note 1 (Second Edition) • English Heritage (2023) Sustainable Conservation Principles • Historic England (2016) Historic England Advice Note 8: Sustainability Appraisal and SEA. • Heritage and Conservation Strategies (various)

Report Section	Issue/Comment	Comments Addressed in Environmental Report
	and Cultural heritage are not all policy documents. Some of them are guidance documents.	• Local Cultural Strategies (various) – Suffolk, Peterborough, Northamptonshire, Norfolk, Essex and Cambridge City • Visit East of England Destination Development Plan (2021) • Conservation Area Character Appraisals and Management Plans (various) • National Planning Policy Framework (2024) • Historic Environment Record • Local Planning Authority (various) Local Plans/Local Development Plans • Listed building Heritage Partnership Agreements (various)
b. Is the baseline information presented sufficiently robust to inform the identification of key sustainability issues and the assessment of the Drought Plan?		
2.3 Environmental Baseline Review	This section sets out the baseline which is welcomed.	Noted.
2.3.8 Soil, Geology and Land Use	2.3.8.1 states that geological sites maybe sensitive to changes in water quality, water levels, pollution and land use practices. All of these issues are also relevant when considering potential risks to buried archaeological remains, particularly remains that are preserved through waterlogging. These issues can impact the preservation of archaeological remains and the ability to analyse the remains in the future, either through the loss of remains or because remains cannot be accessed due to health and safety issues following contamination.	A paragraph has been added to Section B.5.1.2 (Appendix B) of the Environmental Report.
2.3.10 Archaeology and Cultural Heritage	2.3.10.1 It is noted that archaeological remains are sensitive to changes in water quality, water levels, pollution and land use practices, which is good to see. We recommend that an additional paragraph is added summarising listed buildings (total number and also commentary of variety of buildings). Table 2-22 outlines the number of heritage assets in the Anglian SEA Study Area but focuses entirely on designated assets. We would recommend that non-designated assets are also considered. It should be noted that non-designated archaeological sites have been identified within the SEA Study Area of equivalent value as a Scheduled Monument, and some have been classed as being of international importance (e.g. Must Farm, Cambridgeshire). 2.3.10.1 It is noted that the Historic Environment Record (HER) database is mentioned (p87), which holds information on non-designated heritage assets, but the phrase 'non-designated heritage' has not been used. It would be useful to clarify if these assets will also be included in the assessment. 2.3.10.1 states that buried archaeological remains (both designated and non-designated) are vulnerable to fluctuating water levels and that these potential impacts may extending beyond the position of the physical structures, which is good to see. We are also pleased to see that the need for specialist advice to	2.3.10.1 - A paragraph has been added to Section B.7.1.1 (Appendix B) of the Environmental Report. Table 2-22, 2.3.10.1 - Non-designated heritage assets are outside of the scope of this drought plan SEA as this approach is proportionate to the temporary, emergency nature of drought measures. The temporary water management measures in drought plans typically involve minimal construction and pose minimal risk of damage to heritage assets compared to development projects, and the regulatory framework sensibly requires proportionate assessment focused on significant environmental effects where the greatest risks exist, with mitigation and follow-up monitoring able to address any unforeseen impacts on non-designated features. 2.3.10.1, Figures 2-6 and 2-7 - Noted.

Report Section	Issue/Comment	Comments Addressed in Environmental Report
	mitigate potential impacts is acknowledged. Figures 2-6 and 2.7 We welcome the mapping of heritage assets in Figures 2-6 and 2.7.	
	However, we would stress that assessing the potential impact of development on the significance of heritage assets requires more than a simple mapping of the location of those assets and identification of those assets on or in proximity to potential sites. Our Historic England Advice Note 3 (https://historicengland.org.uk/images-books/publications/historic-environment-and-site-allocations-in-local-plans/heag074-he-and-site-allocation-local-plans/) sets out a sequential approach to assessing the impact on significance. Although primarily addressing Local Plans, the principles on page 5 also apply for this Plan. We welcome reference to unknown heritage assets. We also suggest that you use the word setting in relation to heritage assets. We welcome reference to Heritage at Risk. We recommend that you map the location of these assets. Identification and mapping of designated and non-designated heritage assets at risk can provide an indication of clusters, themes and areas of sensitivity. Historic England's Good Practice Advice Note 1 contains advice on other relevant sources of evidence. These include Conservation Area Appraisals and Management Plans, Local Lists, Historic Characterisation assessments and any other in-house and local knowledge. We recommend that these other sources of evidence are considered as part of the SEA process.	Reference to setting has been added to sections B.7.1.1 and B.7.3 (Appendix B) in the Environmental Report. For completion, a map of heritage at risk sites has been included in Figure B-9 (Appendix B) of the Environmental Report.
	Finally, we recommend that you refer to historic landscapes and townscapes. Landscape Character Assessment is the process of identifying and describing variation in the character of the landscape. It seeks to identify and explain the unique combination of elements and features (characteristics) that make landscapes distinctive. This process results in the production of a Landscape Character Assessment. We note reference to Landscape Character in section 2.3.11. We suggest that you also refer to Historic Landscape Characterisation data in your assessment. We refer you to our website which includes some helpful guidance in this regard and sets out some of the differences between this and Landscape Character Areas.	Reference has been made to Historic Landscape Characterisation in Section B.8.1 (Appendix B) of the Environmental Report.

Report Section	Issue/Comment	Comments Addressed in Environmental Report
	https://historicengland.org.uk/research/methods/characterisation/historic-landscape-characterisation/	
2.3.10.2 Future Baseline	We welcome the analysis set out in the future baseline.	Noted.
Question 2 Do you agree that the key issues identified are relevant to the SEA of the Drought Plan? If not, which issues do you think should be included or excluded?		
	2.3.10.3 Key Issues We welcome the issues identified in this paragraph and in Table 2.23. They provide a helpful starting point. We recommend that the second issue for Archaeology and Cultural Heritage is amended to read: • The need to conserve and enhance designated and non-designated heritage assets and the contribution made to their significance by their settings, particularly those which are sensitive to the water environment We also recommend that other Key Sustainability Issues for the Historic Environment should include: • Consideration of the need to choose siting of options to avoid and reduce effects on heritage assets and their settings • Consideration of potential for waterlogged, buried archaeological/paleoenvironment remains • Heritage assets at risk from neglect, decay, or development pressures; • Areas where there is likely to be further significant loss or erosion of landscape/seascape/townscape character or quality, or where development has had or is likely to have significant impact (direct and or indirect) upon the historic environment and/or people's enjoyment of it • The vulnerability of heritage assets to drought conditions We would expect Opportunities as well as Issues to be identified.	Key issues updated in Sections 4.2 (Table 4-1), and B.7.3 (Appendix B) in the Environmental Report.
Question 3. Do you agree with the proposed approach to the SEA of the draft Drought Plan?		
	Yes, we broadly support the overall proposed approach set out in the Scoping report, subject to the comments and recommendations made in our response and specifically below.	Noted.
3.2.1.1 Determining the significance of effect	We note that you are proposing to use matrices to determine things like the magnitude of effects. As highlighted above in relation to the Environmental Assessment methodology, a matrices-based approach is unlikely to be sufficient; we would expect to see this accompanied by a narrative that considers significance (including the contribution made to significance by setting) and the likely impact of the proposed	The matrices are supported by narrative in the Environmental Report. We have considered the advice regarding assigning significance where appropriate to the assessment.

Report Section	Issue/Comment	Comments Addressed in Environmental Report
	development upon that significance. Listed buildings of whatever grade are judged against national standards, and therefore nationally significant (and an irreplaceable resource – NPPF). You need to understand what it is about any given asset that makes it significant and included in that the contribution to that made by its setting. So, we would be cautious for example about simply attributing all grade IIs as medium significance in this context – the question goes much deeper as to what the significance is of that particular asset and will that significance be affected by the development. Reference should be made to heritage values as set out in Conservation Principles.	
	Assessment Criteria In developing assessment criteria, we would advise against a purely distance-based approach. The impact of proposals on the significance of heritage assets should be taken into consideration at an early stage. In terms of projects, this should be based on more than just measuring the proximity of a potential allocation to heritage assets. Impacts on significance are not just based on distance or visual impacts, and assessment requires a careful judgment based on site visits and the available evidence base. This is preferred to the application of a standard proximity test (e.g. is the site within a set distance of a heritage asset) as it avoids misleading results (Historic England Advice Note 3 sets out a sequential approach to assessing the impact on significance). We would suggest that you avoid summing the scores indicating how each proposal performs against the criteria to give an aggregate contribution to each relevant SA objective since such an approach may inadvertently mask ‘showstoppers’ by effectively averaging out the scores. There needs to be some mechanism of identifying where an impact is so great that the proposal should not be progressed. Finally, we recommend referring to heritage assets rather than historic assets/sites in line with the NPPF throughout the report and assessment.	This is a SEA and no site visits are being undertaken as part of this desk-based assessment. Where appropriate, the Advice Note 3 has been considered in the context of the Drought Plan. All references to historic assets/sites in the Environmental Report have been changed to heritage assets.
	Consideration of Opportunities We would expect to see consideration of opportunities. It is considered that the historic environment can make a significant contribution to the success of development and there may be opportunities for the enhancement of the historic environment which comes from sustainable development proposals. It is considered that the SEA should highlight these opportunities. Example opportunities for the historic environment to include within the SEA can be found in our guidance notes in the links above.	N/A

Report Section	Issue/Comment	Comments Addressed in Environmental Report
	Method for Generation of Alternatives The historic environment should be a factor when considering a method for the generation of alternative proposals.	N/A
	Archaeology Scoping and evaluation of archaeological and landscape impacts needs to be an iterative process where existing sources (HER's cartographic etc. and research frameworks e.g. https://researchframeworks.org/) are consulted. This will demonstrate the work needed to prepare the baseline evidence and fill in the gaps in our understanding. This may include survey work (e.g. lidar, aerial photography, geophysical, fieldwalking etc.) and targeted intrusive works (e.g. geoarchaeology and the preparation of a deposit model - https://historicengland.org.uk/images-books/publications/deposit-modelling-and-archaeology/, evaluation excavations etc.). These techniques should be used to model risk and build a robust approach to understanding potential impacts. This will help to ensure that greater heritage and project delivery risks are targeted first so they can inform minimisation and timely mitigation.	N/A
	Long Term Climate Change and Consideration of Cumulative Impacts Consideration should be given to long-term predicted changes to climate in cumulative impacts or when modelling risk to understand impacts. Effects of drought (e.g. soil cracking, reduced vegetation, increased risk of wildfires) can magnify secondary impacts (e.g. erosion) when severe storms/rain hit after a period of drought. These extreme events are becoming more frequent. Works affecting site hydrology may increase a site's vulnerability to predicted climate impacts. Conversely, measures to control affected areas could improve landscape resilience, so works may have positive outcomes. If possible, cumulative impacts should consider those beyond the immediate effects of any plans. This will obviously include a level of uncertainty, but it would be good to see that changes to rain patterns have been considered as part of a wider climatic system.	The Environmental Statement considers the potential influence of long-term climate change on environmental conditions, including projected changes in temperature and rainfall as described in Section B6.1.1 (climatic factors). The UKCP18 projections have informed the baseline and also provide a context for the assessment of likely significant effects. There is recognition of the inherent uncertainty in long-term climate projections.
	Other Assessment including Heritage Impact Assessments Finally, we would add that whilst this assessment process is a vital part of the assessment, more detailed assessment of particular aspects may be necessary going forward for particular sites/schemes. For example, Historic England would expect to see the completion of a Heritage Impact Assessment as part of the evidence base for certain sites/proposals likely to have an impact on the significance of heritage assets (including development within the setting of the heritage assets). We would be happy to provide further	N/A

Report Section	Issue/Comment	Comments Addressed in Environmental Report
	advice in this regard if and where this may be necessary as part of the evidence base for transport proposals.	
Question 4 Do you agree with the objectives / guide questions as presented and if not, do you have any suggested amendments or additions that you believe should be included?		
3 SEA Objectives and Proposed Framework	3.1 Draft SEA Objectives It is stated that the assessment of each drought option will require key information, some of which will be available from the Drought Plan. We are pleased to see that heritage has been included and that it will be discussed within the Drought Plan itself. Table 3-1 outlines the SEA objectives and assessment approach as well as the indicator/guide questions that will be addressed. The objectives and questions identified in Table 3.1, provide a useful starting point for the historic environment subject to the following comments: Water This section states that sources of flooding need to be addressed to reduce harm. We are pleased to see that this includes harm to the historic environment (We recommend that this is also included in the section on Water, 2.3.7). Soil, geology and land use This section states that soils will need to be protected and managed to optimise the varied functions that soils perform for society. We are pleased to see that cultural heritage in relation to soils is recognised but it should also be noted that the soils may be of archaeological interest in their own right (We recommend that this is also included in the section on Geology, 2.3.8). Archaeology and cultural heritage We recommend that the objective specifically refers to designated and non-designated heritage assets. In relation to assessment questions for the historic environment section starts each one with 'will it avoid damage ...?'. We recommend that this should be amended to 'will the option protect and/or conserve ...' which would be a more positive way to frame the questions. Further suggestions of potential objectives and decision-making criteria that also relate to the historic environment can be found in our advice note (https://historicengland.org.uk/images-books/publications/sustainability-appraisal-and-strategic-environmental-assessment-advice-note-8/heag036-sustainability-appraisal-strategic-environmental-assessment/) on pages 7-9.	Water 2.3.7 - Text has been added to Section B.4.2 (Appendix B) of the Environmental Report. Geology 2.3.8 - A paragraph has been added to Section B.5.1.1 (Appendix B) of the Environmental Report. Archaeology and cultural heritage - Non-designated heritage assets are outside of the scope of this drought plan SEA as this approach is proportionate to the temporary, emergency nature of drought measures. The temporary water management measures in drought plans typically involve minimal construction and pose minimal risk of damage to heritage assets compared to development projects, and the regulatory framework sensibly requires proportionate assessment focused on significant environmental effects, with mitigation and follow-up monitoring able to address any unforeseen impacts on non-designated features. On this basis, the existing wording of the assessment questions is considered appropriate to the plan. The SEA advice note 8 has been considered where appropriate during the assessment.

Table C-2: Environmental Agency Statutory Consultee Scoping Comments and Responses

Report Section	Issue/Comment	Recommended Actions	Comments addressed in Environmental Report
Figure 1-3: Locations of Supply Options	The abstraction from the river Welland at Tinwell to Rutland Water is not included in this report.	Explain why the abstraction from the river Welland at Tinwell to Rutland Water is not included in the DP27.	Figure 1-2 (previously Figure 1-3 in the Scoping Report) shows the location of supply options that require a drought permit. The drought permit for Rutland Water is for a change in abstraction on the River Nene at Wansford rather than the River Welland at Tinwell. This is why the River Welland abstraction is not included in this figure. Standard supply actions include using alternative river abstraction sources which covers using abstraction points such as Tinwell on the River Welland. These supply actions are summarised in the SEA and main DP27 report.
2.3.7.2 Water Framework Directive	The 2019 WFD cycle 2 classification has been used in the report. This is out dated.	Suggest using the 2022 WFD cycle 3 classification in the report.	The latest information available online dated from 2019 and was used in the Scoping Report, therefore, this has been retained in the Environmental Report. The reference to the cycle has been corrected from Cycle 2 to 3 in Section B.4.1.2 (Appendix B) of the Environmental Report. See links below: https://environment.data.gov.uk/catchment-planning/v/c3-plan/RiverBasinDistrict/5/print https://environment.data.gov.uk/catchment-planning/v/c3-plan/RiverBasinDistrict/5/objectives

Report Section	Issue/Comment	Recommended Actions	Comments addressed in Environmental Report
			https://environment.data.gov.uk/catchment-planning/v/c3-plan/RiverBasinDistrict/5
2.3.7.2 Water Framework Directive	Only oxygen and ammonia are mentioned along with specific pollutants.	Add soluble reactive phosphorus, BOD, priority substances and priority hazardous substances to the list of chemicals that make up the WFD classification.	This has been updated in Sections B.1.1.2 and B.4.1.2 (in Appendix B) of the Environment Report.
2.3.7.2 Water Framework Directive	The SAE report has not been updated with the latest WFD classification and overall waterbody objective for 2027.	Review the overall waterbody objectives which may have been updated since the 2019 WFD classification.	The latest information available online dated from 2019 and was used in the Scoping Report, therefore, this has been retained in the Environmental Report. The reference to the cycle has been corrected from Cycle 2 to 3 in Section B.4.1.2 (Appendix B) of the Environmental Report. See links below: https://environment.data.gov.uk/catchment-planning/v/c3-plan/RiverBasinDistrict/5/print https://environment.data.gov.uk/catchment-planning/v/c3-plan/RiverBasinDistrict/5/objectives https://environment.data.gov.uk/catchment-planning/v/c3-plan/RiverBasinDistrict/5
Table 2-17: River Nene: Duston Mill Intake (Pitsford Reservoir) WFD Data	Rutland Water is listed in <i>Table 2-19</i> , but Pitsford is not listed for the Dunston Mill Intake in table 2-17	Include Pitsford water body in table 2-17	This has been added to Table B-16 (in Appendix B) of the Environmental Report
Figure 1.3. Section 1.2.4	Section 1.2.4 describes how some drought options have the potential to influence beyond Anglian's immediate supply area towards Essex, Suffolk's and Cambridge water supply areas and the SEA study area has been extended accordingly and	Fig 1.3 should be amended to align with the text in 1.2.4 that states the study area has been extended beyond the supply area. At present both the supply area and the study area are shown as the same.	The Zone of Influence of the drought permit options is being reviewed through the Environmental Assessment Reports (EARs) which will be taken into account in the SEA action assessments. However, the SEA study area and baseline figures

Report Section	Issue/Comment	Recommended Actions	Comments addressed in Environmental Report
	taken into account in baseline data collation.		have been updated in Figure 1-2 and Appendix B respectively.
	Figure 1.3 clearly identifies the study area as 'SEA Area under consideration', however it does not show any difference between the supply area and the extension of the study area, they both appear to be the same.		The SEA study area and baseline figures have been updated in Figure 1-2 and Appendix B respectively.
Section 2.3	Section 2.3 Currently states condition of the baseline at a National level, there should include additional commentary on baseline condition at a local level for each topic eg; for designated sites, air quality etc	Section 2.3 should include detail on baseline condition at a local level for each topic eg; for designated sites, air quality etc as appropriate.	This is explained in section 4.4. This was not considered to be proportionate at Scoping where options are not fully developed. Localised issues have been appropriately and proportionately considered during the assessment.
Section 2.2. Table 2.1	The PPP review should include consideration of other water company plans and strategic programmes of work including Strategic Resource Options	Anglian Water should consider if there are any Strategic Resource Options that may affect the study area or influence this drought plan and add these to the PPP review.	This has been considered under the cumulative impacts section in Section 6 of the Environmental Report
Section 1.5. Section 3.1	The information on scoping in/out topics and any justification for this is towards the end of the report in section 3.1 stating all topics will be considered. For clarity and ease of reading it would be beneficial to have this scoping information earlier in the report with a justification as to why all topics are scoped in.	Anglian Water should consider adding text at beginning of report in Section 1.5 and/or Section 2 outlining why topics are scoped in/out and the justifications for this.	This has been added to Section 2.2 of the Environmental Report

Table C-3: Natural England Statutory Consultee Scoping Comments and responses

Report Section	Comment	Comments Addressed in Environmental Report
Table 2.1	include 25 Year Environment Plan and Environmental Improvement Plan 2023, or as reviewed, In Policies for Biodiversity, f&f. I see they are under resource use and water, but are also relevant to Biod	The Environmental Improvement Plan 2023 has been added to the Biodiversity section B.1.2 (in Appendix B). The 25 Year Environment Plan is already referenced here.
Table 2.1	Biodiversity. Policies. Include Conservation Objectives Supplementary Advice (COSA) for SACs where available. eg for Wensum https://designatedsites.naturalengland.org.uk/SiteGeneralDetail.aspx?SiteCode=UK0012647&SiteName=&countyCode=&responsiblePerson=&unitId=&SeaArea=&IFCAArea=	The Conservation Objectives Supplementary Advice has been included among biodiversity policies in Table 2-1 and in Appendix A.
2.3.4.1.1	"All sites within 5km of the proposed DP27 options" how does this align with the 10km HRA? Largely covered by "together with" but non-HRA sites can be as environmentally sensitive as HRA sites	Impacts outside of the 5km buffer will be considered where affected by changes to surface or groundwater levels. The EARs cover the entire zone of influence for each action and the SEA will draw on these assessments and the receptors identified within them.
Table 2.3	Buxton heath is part of NVF SAC, so will need to be included in HRA and SEA	Buxton heath has also been included in Table B-5 (in Appendix B) in the Environmental Report.
Table 2.3	Alderford Common SSSI and sweet Briar Meadows SSSI are likely also in scope	Alderford Common and Sweet Briar Meadow SSSI have been added to Table B-2 (Appendix B).
2.3.4.1.3	"Therefore, the duration of effects on sensitive features and reversibility post drought are important considerations." strongly agree, this isn't however explicit until now	N/A
2.3.4.1.3	"impacts on biodiversity may include...." and changes in water chemistry	This has been included in Section B.1.1.2 (Appendix B) of the Environmental Report.
2.3.4.2	NE has an ongoing program of site condition assessments that may help inform future baseline.	A statement about these assessments has been added to the future baseline section B.1.2 (Appendix B) in the Environmental Report.

Report Section	Comment	Comments Addressed in Environmental Report
2.3.4.2	"assuming sufficient resources are in place, it is likely that the condition of these sites will improve over the next two or three decades" this is a big assumption, and additional pressures such as climate change may further affect sites. Covered later.	This has been removed from the relevant Baseline Section B1.2. (Appendix B) of the Environmental Report.
2.3.8.1	with the importance of peatlands with regard to carbon emissions and habitat restoration and related policy objectives it would be useful to map areas of peat as well as land classifications	Land classifications maps have already been included in Section B5.1.1 (Appendix B). A map of peaty soils has been added in the same section as Figure B - 6 in the Environmental Report.
2.3.8.3 and Table 2.23	"The need to protect and restore peatlands to reduce impacts of climate change." and habitat restoration	Text has been updated to include habitat restoration in Table 4-1 (Section 4.2) and Section B.5.3 (Appendix B).
2.3.9	NE's climate change adaptation Manual could be a useful reference. https://publications.naturalengland.org.uk/publication/5679197848862720	This reference has been used in relation to greenhouse gas emissions in Section B.6.1.1 (Appendix B) of the Environmental Report.
Table 3.1 BioD, f&f	"Will it avoid damage to aquatic, transitional and terrestrial species and habitats" and/or their supporting processes	This has been updated to reflect the addition in Table 4-1 of the Environmental Report.
Table 3.1 Water	"Will it minimise risks of adverse effects on water quality?" or chemistry	This has been updated to reflect the addition in Table 4-1 of the Environmental Report.
Table 3.1 Soil, g&lu	A specific peat indicator/question would be useful	This has been updated to reflect the addition in Table 4-1 of the Environmental Report.
3.2.1 and table 3.2	as above, column 8 will need to consider changes to aquifer recovery time where relevant	Column 8 in Table 3-2 in the Scoping Report refers to 8. Duration of effect (short/ medium /long term) in the proposed assessment matrix. Where we have information on the aquifer recovery from the Appendix A of the EAR, this information will be added to the assessment commentary and used to determine the duration of the impact.
3.2.1.1 and Table 3.4	what are the implications of the significance matrix for mitigation measures? Is there an implication that at a particular category no action would be taken? Under the definitions given Moderate effects will likely need mitigation to address them, and as stated cumulative minor effects may need action.	In line with the 2004 Regulations, the Practical Guide to SEA and the UKWIR Environmental Assessment guidance for WRMPs and DPs, mitigation measures are those measures envisaged to prevent, reduce or offset likely significant adverse effects of implementing the

Report Section	Comment	Comments Addressed in Environmental Report
		plan. Therefore, whilst general mitigation measures will be included, where possible, across all SEA topics, the focus is on likely significant adverse effects.
Table 2.2	Cattawade Marshes and Stour Estuary need to be in scope as well?	Cattawade Marshes and Stour Estuary have been added to Table B-1 (Appendix B).
Table 3.1 Soil, g&lu	Buxton heath is part of NVF SAC, so will need to be included in HRA and SEA	This has been updated to reflect the addition in Table 4-1 of the Environmental Report.

APPENDIX D: ASSESSMENT MATRICES

Drought Plan Action:	Communication campaigns and messaging
Description	This action involves the promotion of water-efficiency via a continuous programme of direct and indirect communication with both household and non-household customers to encourage them to reduce their water use. Messaging to customers would be through multiple channels such as emails and social media about the water resources position, encouraging behaviour change to support Anglian Water in reducing and or managing demand. Communication and awareness would be increased during a potential drought in advance of any restrictions.

SEA topics and objectives		Assessment of Drought Action								Residual adverse effect significance (likely to remain after reasonable mitigation)	Residual beneficial effect significance (likely to remain after reasonable mitigation)
Topic	Objective	Scale of effect: geographical &/or population affected (Small/Medium/Large)	Certainty of effect (Low/Medium/High)	Duration of effect (Short-term/Medium-term/Long-term)	Permanence of effect (Permanent/Temporary)	Magnitude of effect (Low/Medium/High)	Value/ sensitivity of receptor (Low/Medium/High)	Residual effect on sensitive receptors (assuming good practice construction methods) Commentary (construction and operation)			
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species), enhance ecosystem resilience and habitat connectivity.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	The campaigns to raise public awareness can be carried out in a number of ways using a variety of different types of media. This action will have no adverse impacts on biodiversity, flora or fauna, nor designated sites of nature conservation interest. However, the action will reduce consumer demand for water and thereby reduce the requirement for abstraction from Anglian Water's sources, with the potential for beneficial impacts on flow sensitive habitats/species.	None	Minor beneficial	
Biodiversity, flora and fauna	1.2 To protect and enhance sustainable natural resources and the ecosystem services they provide and deliver a biodiversity net gain.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	This action will have no adverse effects on natural resources or ecosystem services. However the action will reduce consumer demand for water and thereby reduce the requirement for abstraction from Anglian Water's sources, with the potential for beneficial effects on sustainable natural resources. There is not expected to be a scope for any impact to provide or deliver biodiversity net gain.	None	Minor beneficial	
Biodiversity, flora and fauna	1.3 To avoid introducing or spreading INNS.	n/a	n/a	n/a	n/a	n/a	n/a	Communication campaigns are considered to have no impact on the introduction or spreading of INNS.	None	None	
Biodiversity, flora and fauna	1.4 To meet WFD objectives relating to biodiversity.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	This campaign and messaging will reduce the need for water abstraction from Anglian Water's sources, easing pressure on aquatic ecosystems. This will help maintain natural flow levels, prevent further ecological degradation, and support the resilience of habitats and species.	None	Minor beneficial	
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Large	Medium	Short-term	Temporary	Low (beneficial)	Medium	The communication campaign will result in water savings which will contribute towards improving the security of supply for customers in Anglian Water's supply region. The communication campaign will also help raise awareness of the importance and value of water environment for health and well-being.	None	Minor beneficial	
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Medium	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Low	Campaign messaging might increase awareness of and promote sustainable tourism activities and sites. There is potential for changes in public perception of water-based recreation (e.g., swimming, boating, angling), reduction in visitor numbers at water-dependent recreational sites (e.g., reservoirs, lakes), or reduced maintenance at facilities like public pools, water parks, or fountains, especially during heightened drought messaging.	Negligible adverse	Negligible beneficial	
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Large	Medium	Short-term	Temporary	Low (beneficial)	Medium	The communication campaign will result in water savings which will contribute towards improving the security of water supply for businesses in the region, therefore protecting the local economy.	None	Minor beneficial	
Material assets and resource use	3.1 To minimise waste, promote resource efficiency and move towards a circular economy.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	This action will not involve any increased material resource use and waste production. This action would lead to reduced water wastage at the household level through behaviour change, less energy waste associated with water treatment and pumping, as reduced demand leads to lower operational loads, and decreased pressure on infrastructure.	None	Minor beneficial	
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	This action will encourage sustainable water resource management and raise awareness amongst customers.	None	Minor beneficial	
Water	4.1 To maintain or improve the quality of surface and groundwater resources.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	Reductions in demand for water due to this drought plan action would result in a reduced requirement for abstraction from Anglian Water's sources, reducing associated abstraction impacts on surface water and groundwater quality in drought conditions.	None	Minor beneficial	
Water	4.2 To protect and enhance surface and groundwater levels and flows.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	The communication campaign is considered to have a beneficial impact on hydrological flows, as reduced consumer demand for water will result in reduced requirements for abstraction from water sources in the Anglian Water operating area. Natural flow regimes can be maintained, and behaviour changes can result in water resilience.	None	Minor beneficial	
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources, including contributing to the achievement of WFD compliance objectives.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	The communication campaign is directly linked to sustainable water resource management, as reduced consumer demand for water will result in reduced abstraction. This, in turn, should help maintain ecological flow requirements, prevent over-abstraction, and achieve good ecological and chemical status in WFD waterbodies.	None	Minor beneficial	
Water	4.4 To promote water efficiency and actions that enable sustainable water use.	Medium	Medium	Medium-term	Temporary	Low (beneficial)	Medium	The communication campaign is considered to have a beneficial impact via reduced consumer demand for water. This may have medium-term impacts on consumer behaviour and water usage through information provision. The campaign could foster a long-term culture of responsible water use, embedding conservation habits in daily life. Changes in behaviour may promote a balance between human needs and ecosystem health.	None	Minor beneficial	
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and protect and enhance geodiversity and ensure appropriate and efficient use of land.	n/a	n/a	n/a	n/a	n/a	n/a	No impacts on soils, geology and land use are anticipated as a result of this drought action.	None	None	
Air and Climate	6.1 To maintain and improve air quality.	n/a	n/a	n/a	n/a	n/a	n/a	No impacts on air quality are anticipated as a result of the communication campaign and messaging.	None	None	
Air and climate	6.2 To reduce greenhouse gas emissions.	Medium	Medium	Medium-term	Temporary	Low (beneficial)	Low	This action would lead to reduced water use at household level through behaviour change, resulting in less energy required for water treatment and pumping and associated emissions.	None	Negligible beneficial	
Air and climate	6.3 To consider the need for adaptive actions for climate change.	Medium	High	Short-term	Temporary	Low (beneficial)	High	Demand management actions are a key component of Anglian Water's Drought Plan. The Plan aims to ensure the resilience of water supplies to drought which may become more prevalent due to climate change. Communication campaigns and messaging will inform, engage, and prepare communities for the ongoing and future impacts of climate change	None	Minor beneficial	
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Low	The communication campaign is considered to have no direct impact on the historic environment, heritage assets and their settings and archaeologically important sites. There is the potential for reduced consumer demand for water to result in reduced requirement for abstraction at Anglian Water's sources, reducing impacts on water-dependent archaeology and cultural heritage assets.	None	Negligible beneficial	
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, landscape character and visual amenity.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Low	The communication campaign is considered to have no direct impact on landscape and visual amenity or any changes to access to the countryside or open space. There is the potential for reduced consumer demand for water to result in reduced requirement for abstraction at Anglian Water's sources, reducing impacts of drought-related landscape or visual impacts.	None	Negligible beneficial	

Drought Plan Action:	Water efficiency activities
Description	Additional water efficiency and behaviour change interventions, including: • Increased promotion of water-saving devices • Free water use audits/efficiency visits to homes, e.g. in areas under pressure • Free or subsidised repairs of integral plumbing losses • Joining activities with retailers for non-households, such as water use audits/efficiency visits (webinars for timely delivery) • Behaviour-based: gamification-based initiatives offering non-financial incentives, e.g. community-based water saving competitions with AWS donating money or sponsoring environmental or educational projects that are important for the local community.

SEA topics and objectives		Assessment of Drought Action								
Topic	Objective	Scale of effect: geographical &/or population affected (Small/Medium/Large)	Certainty of effect (Low/Medium/High)	Duration of effect (Short-term/Medium-term/Long-term)	Permanence of effect (Permanent/ Temporary)	Magnitude of effect (Low/Medium/High)	Value/ sensitivity of receptor (Low/Medium/High)	Residual effect on sensitive receptors (assuming good practice construction methods) Commentary (construction and operation)	Residual adverse effect significance (likely to remain after reasonable mitigation)	Residual beneficial effect significance (likely to remain after reasonable mitigation)
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species), enhance ecosystem resilience and habitat connectivity.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	This action will have no adverse impacts on biodiversity, flora or fauna, or designated sites of nature conservation interest. However, the action will reduce consumer demand for water and thereby reduce the requirement for abstraction from Anglian Water's sources, with the potential for beneficial impacts on flow sensitive habitats/species.	None	Minor beneficial
Biodiversity, flora and fauna	1.2 To protect and enhance sustainable natural resources and the ecosystem services they provide and deliver a biodiversity net gain.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	Water efficiency activities are considered to have no adverse impact on natural resources or ecosystem services. It is acknowledged that reduced consumer demand for water will result in reduced requirement for abstraction from Anglian Water's sources and, therefore, potential for beneficial impacts to support natural resources and ecosystem services. There is not expected to be any scope for delivery or provision of Biodiversity Net Gain as part of this action.	None	Minor beneficial
Biodiversity, flora and fauna	1.3 To avoid introducing or spreading INNS.	n/a	n/a	n/a	n/a	n/a	n/a	Water efficiency activities are likely to have no impact on avoiding the introduction or spreading of INNS, with reduced abstraction requirements leaving more water in river systems.	None	None
Biodiversity, flora and fauna	1.4 To meet WFD objectives relating to biodiversity.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	These activities will reduce the need for water abstraction from Anglian Water's sources, easing pressure on aquatic ecosystems. This will help maintain natural flow levels, prevent further ecological degradation, and support the resilience of habitats and species.	None	Minor beneficial
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Large	High	Medium to Long-term	Temporary	Low (beneficial)	Medium	Water efficiency activities will result in water savings which will contribute towards improving the security of supply for customers in Anglian Water's supply region. The activities will also help raise awareness of the importance and value of the water environment for health and well-being.	None	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Medium	Medium	Medium-term	Temporary	Low (beneficial)	Medium	By supporting water conservation, water efficiency activities can help protect river levels and water quality, which benefits water-based recreation (e.g. angling, boating) and associated habitats.	None	Minor beneficial
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	Water efficiency activities will result in water savings which will contribute towards improving the security of water supply for businesses in the region, therefore protecting the local economy.	None	Minor beneficial
Material assets and resource use	3.1 To minimise waste, promote resource efficiency and move towards a circular economy.	Medium	Medium	Short-term	Temporary	Low (adverse)	Low	This action involves promoting the use of water saving devices and repairs of integral plumbing losses, which may require materials and generate some waste. However, by applying good practice measures, any waste associated with the production of these devices can be minimised. Water efficiency is aimed at long-term improvements in resource efficiency and associated benefits. Recyclable, modular or repairable devices would support circular economy goals.	Negligible adverse	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	Medium	Medium	Short-term	Permanent	Low (beneficial)	Medium	This action will directly encourage sustainable water resource management and raise awareness amongst customers.	None	Minor beneficial
Water	4.1 To maintain or improve the quality of surface and groundwater resources.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	Reductions in demand for water due to this drought plan action would result in a reduced requirement for abstraction from Anglian Water's sources, reducing associated abstraction impacts on surface and groundwater quality in drought conditions.	None	Minor beneficial
Water	4.2 To protect and enhance surface and groundwater levels and flows.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	Water efficiency activities are considered to have a beneficial impact on the water environment, acknowledging that reduced consumer demand for water will result in reduced requirement for abstraction and associated impacts on flows and levels of water sources in the Anglian Water operating area. Raising awareness at the community level can embed water-saving behaviours and promote stewardship, supporting consistent reductions in demand and hydrological resilience.	None	Minor beneficial
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources, including contributing to the achievement of WFD compliance objectives.	Medium	Low	Short-term	Temporary	Low (beneficial)	Medium	Reduction in demand for water will result in reduced requirement for abstraction from Anglian Water's sources. This could help to maintain environmental and compensation flows and resilience in dry periods, indirectly sustaining aquatic habitats and ecosystem function. This can prevent the deterioration of the WFD water body status by lowering abstraction pressure.	None	Minor beneficial
Water	4.4 To promote water efficiency and actions that enable sustainable water use.	Medium	Medium	Medium to Long-term	Temporary - Permanent	Low (beneficial)	Medium	This action will have a beneficial impact on water efficiency, acknowledging that reduced consumer demand for water will result in reduced requirement for abstraction at source. This may have medium to long-term impacts on consumer water usage.	None	Minor beneficial
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and protect and enhance geodiversity and ensure appropriate and efficient use of land.	n/a	n/a	n/a	n/a	n/a	n/a	No impacts on soil, geology or land-use have been identified.	None	None
Air and Climate	6.1 To maintain and improve air quality.	Medium	Medium	Short-term	Temporary	Low (adverse)	Low	Some water efficiency activities such visits to homes in areas under pressure and repair works will require vehicle movements. However, the volume of traffic generated is not expected to have a significant adverse impact on air quality within the Anglian Water region.	Negligible adverse	None
Air and climate	6.2 To reduce greenhouse gas emissions.	Medium	Medium	Short-term	Temporary	Low (adverse)	Low	Vehicle movements and energy consumption associated with this drought action are not expected to lead to a significant increase in greenhouse gas emissions across the Anglian Water region.	Negligible adverse	None
Air and climate	6.3 To consider the need for adaptive actions for climate change.	Medium	High	Short-term	Temporary	Low (beneficial)	High	Demand management actions are a key component of Anglian Water's Drought Plan. The Plan aims to ensure the resilience of water supplies to drought which may become more prevalent due to climate change. Water efficiency activities will inform, engage, and prepare communities for the ongoing and future impacts of climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Low	Water efficiency activities are considered to have no direct impact on the historic environment, heritage assets and their settings and archaeologically important sites. There is the potential for reduced consumer demand for water to result in reduced requirement for abstraction at Anglian Water's sources, potentially reducing any impacts of drought-related effects on archaeology and cultural heritage assets.	None	Negligible beneficial
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, landscape character and visual amenity.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Low	Water efficiency activities are considered to have no direct impact on landscape and visual amenity or any changes to access to the countryside or open space. There is the potential for reduced consumer demand for water to result in reduced requirement for abstraction at Anglian Water's sources, potentially reducing any impacts of drought-related landscape or visual impacts.	None	Negligible beneficial

Drought Plan Action:	Customer Metering									
Description	Progressing the roll out of smart metering across the region. Aim is to accelerate the programme and have all HH and NHH customers smart metered by 2030. Progressing compulsory switching of customers from unmeasured to measured charges.									
SEA topics and objectives										
Assessment of Drought Action										
Topic	Objective	Scale of effect: geographical &/or population affected (Small/Medium/Large)	Certainty of effect (Low/Medium/High)	Duration of effect (Short-term/Medium-term/Long-term)	Permanence of effect (Permanent/Temporary)	Magnitude of effect (Low/Medium/High)	Value/ sensitivity of receptor (Low/Medium/High)	Residual effect on sensitive receptors (assuming good practice construction methods) Commentary (construction and operation)	Residual adverse effect significance (likely to remain after reasonable mitigation)	Residual beneficial effect significance (likely to remain after reasonable mitigation)
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species), enhance ecosystem resilience and habitat connectivity.	Medium	High	Long-term	Permanent	Low (beneficial)	Medium	Smart meters would be a permanent fixture, providing customers with greater visibility of their water use and helping to identify leaks. Installation involves the replacement of existing meters at properties and is therefore not expected to result in any disturbance to biodiversity, flora, or fauna. Over the longer term, smart metering may contribute to reduced water demand, and consequently, lower abstraction from natural sources. This could lead to secondary benefits for biodiversity, ecosystems, and the natural environment.	None	Minor beneficial
Biodiversity, flora and fauna	1.2 To protect and enhance sustainable natural resources and the ecosystem services they provide and deliver a biodiversity net gain.	Medium	Medium	Long-term	Permanent	Low (beneficial)	Medium	Upgrading to smart meters involves the replacement of existing meters at properties and is therefore not expected to result in any disturbance to local habitats It is recognised that reduced consumer demand for water associated with smart metering will lessen the need for abstraction from Anglian Water's sources. This may result in beneficial effects by supporting natural resources and enhancing ecosystem services. There is not expected to be any scope for delivery or provision of Biodiversity Net Gain as part of this action.	None	Minor beneficial
Biodiversity, flora and fauna	1.3 To avoid introducing or spreading INNS.	n/a	n/a	n/a	n/a	n/a	n/a	Smart metering will not affect the spread of INNS.	None	None
Biodiversity, flora and fauna	1.4 To meet WFD objectives relating to biodiversity.	Medium	Medium	Long-term	Permanent	Low (beneficial)	Medium	Smart metering will encourage water savings and reduce the need for water abstraction from Anglian Water's sources, easing pressure on aquatic ecosystems. This will help maintain natural flow levels, prevent further ecological degradation, and support the resilience of habitats and species.	None	Minor beneficial
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Large	Low	Short-term	Permanent (beneficial) Temporary (adverse)	Low (beneficial) Low (adverse)	Medium (beneficial) Low (adverse)	Smart meters will provide customers with greater visibility of their water use, helping to promote awareness the value of the water environment. Additionally, the enhanced leakage detection enabled by smart meters, and the subsequent reduction in leakage, will help maintain levels of service by preserving water that would otherwise be lost. Reduced demand for water could help to avoid the need for more restrictive actions such as temporary use bans during the drought, however, this would depend on the severity of the drought itself, so the impact is uncertain. Upgrading to a smart meter will be at no cost to customers and is therefore not expected to have any adverse impact on water bills. However, there may be some temporary and localised increases in disturbance and disruptions associated with meter installation works, but it is anticipated that this could be managed through good practice and is unlikely to be significant.	Negligible adverse	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Medium	Medium	Long-term	Permanent	Low (beneficial)	Low	By supporting water conservation, smart meters can help protect river levels and water quality, which benefits water-based recreation (e.g. angling, boating) and associated habitats.	None	Negligible beneficial
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Medium	Medium	Long-term	Permanent	Low (beneficial)	Medium	Reduced demand for water associated with the use of smart meters could help to avoid the need for more restrictive actions such as temporary non-essential use bans during the drought. However, this would depend on the severity of the drought, so the impact is uncertain.	None	Minor beneficial
Material assets and resource use	3.1 To minimise waste, promote resource efficiency and move towards a circular economy.	Small	High	Long-term	Permanent	Medium (beneficial) Low (adverse)	Low	Smart metering will help reduce water demand across the region by improving the efficiency of existing resource use. Associated leakage reduction activities will reduce the volume of water lost from the supply network, along with the energy and chemicals required to treat and deliver that water. The programme will make use of existing infrastructure, with minimal need for new construction. While the installation of smart meters does require raw materials, primarily for meter hardware and associated components, the overall material demand is low, as it involves replacing existing meters with minimal physical disruption. Where possible, old meter components will be recycled or disposed of responsibly.	Negligible adverse	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	Medium	Medium	Long-term	Permanent	Low (beneficial)	Medium	Smart metering will promote efficient water resource management and sustainable management of natural resources.	None	Minor beneficial
Water	4.1 To maintain or improve the quality of surface and groundwater resources.	Medium	Medium	Long-term	Permanent	Low (beneficial)	Medium	The smart meters would be a permanent fixture and as such could act to reduce demand (and therefore abstraction requirements) over the long term, which could have some minor beneficial secondary effects for surface water quality.	None	Minor beneficial
Water	4.2 To protect and enhance surface and groundwater levels and flows.	Medium	Medium	Long-term	Permanent	Low (beneficial)	Medium	The smart meters would be a permanent fixture and as such could act to reduce demand (and therefore abstraction requirements) over the long term, which could have some minor beneficial secondary effects for river flows and groundwater resources.	None	Minor beneficial
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources, including contributing to the achievement of WFD compliance objectives.	Medium	High	Long-term	Permanent	Low (beneficial)	Medium	Reduction in demand for water will result in a reduced requirement for abstraction from Anglian Water's sources, helping provide some protection for water-dependent ecosystems. Potential benefits could include prevention of deterioration of surface and groundwater status, and the promotion of sustainable water use in the long-term.	None	Minor beneficial
Water	4.4 To promote water efficiency and actions that enable sustainable water use.	Medium	Medium	Long-term	Permanent	Low (beneficial)	Medium	The smart meters would be a permanent fixture and would encourage consumers to become more efficient with their water use.	None	Moderate beneficial
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and protect and enhance geodiversity and ensure appropriate and efficient use of land.	Small	High	Short-term	Temporary	Low (adverse)	Low	The installation of smart meters is not expected to disturb local soils or geology, as it does not involve groundworks. However, secondary leakage reduction activities resulting from improved leakage detection may lead to some localised disturbance to soils, geology, and land use during pipeline repairs. These activities will be limited to existing pipeline routes and infrastructure, minimising the extent of disruption.	Negligible adverse	None
Air and Climate	6.1 To maintain and improve air quality.	Small	Low	Short-term	Temporary	Low (adverse)	Medium	Vehicle trips necessary for smart meter installation and resulting leakage detection and repair will cause emissions affecting local air quality, including some within Air Quality Management Areas in Anglian Water's supply area.	Minor adverse	None
Air and climate	6.2 To reduce greenhouse gas emissions.	Medium	Medium	Short-term (adverse) Long-term (beneficial)	Temporary (adverse) Permanent (beneficial)	Low (beneficial) Low (adverse)	Medium	Vehicle trips necessary for smart meter installation and resulting leakage detection and repair will cause greenhouse gas emissions. Leakage detection and repairs will result in the reduction of water lost in the supply network and long term associated energy savings (decreased greenhouse gas emissions associated with decreased need for water treatment and pumping).	Minor adverse	Minor beneficial
Air and climate	6.3 To consider the need for adaptive actions for climate change.	Small	High	Long-term	Permanent	Low (beneficial)	High	Demand management actions are a key component of Anglian Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought which may become more prevalent due to climate change. Smart metering is an adaptive action that will help water systems and communities to respond to and prepare for the long-term impacts of climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Small	Medium	Short-term	Temporary	Low (beneficial)	Low	Smart metering is considered to have no direct impact on the historic environment, heritage assets and their settings. There is the potential for reduced consumer demand for water to result in reduced requirement for abstraction at source, potentially reducing the magnitude of any drought related archaeology and cultural heritage impacts.	None	Negligible beneficial
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, landscape character and visual amenity.	Small	Medium	Short-term	Temporary	Low (beneficial)	Low	Smart metering is considered to have no direct impact on landscape and visual amenity or any changes to access to the countryside or open space. There is the potential for reduced consumer demand for water to result in reduced requirement for abstraction at source, potentially reducing the magnitude of any drought related landscape or visual impacts.	None	Negligible beneficial

Drought Plan Action:	Tariffs									
Description:	During drought, AWS could look to amend the current tariffs or create new ones focused on saving water in areas at risk of drought.									
SEA topics and objectives										
Assessment of Drought Action										
Topic	Objective	Scale of effect: geographical &/or population affected (Small/Medium/Large)	Certainty of effect (Low/Medium/High)	Duration of effect (Short-term/Medium-term/Long-term)	Permanence of effect (Permanent/Temporary)	Magnitude of effect (Low/Medium/High)	Value/ sensitivity of receptor (Low/Medium/High)	Residual effect on sensitive receptors (assuming good practice construction methods) Commentary (construction and operation)	Residual adverse effect significance (likely to remain after reasonable mitigation)	Residual beneficial effect significance (likely to remain after reasonable mitigation)
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species), enhance ecosystem resilience and habitat connectivity.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	Tariffs are not expected to adversely impact biodiversity, flora, or fauna. However, it is acknowledged that reduced consumer demand for water as a result of this action will lead to a decreased need for abstraction from Anglian Water's sources, potentially resulting in beneficial impacts on flow levels, and benefiting sensitive habitats and species.	None	Minor beneficial
Biodiversity, flora and fauna	1.2 To protect and enhance sustainable natural resources and the ecosystem services they provide and deliver a biodiversity net gain.	Medium	Medium	Short-term	Temporary	Medium (beneficial)	Medium	Tariffs are considered to have no adverse impact on natural resources or ecosystem services. It is acknowledged that reduced consumer demand for water will result in reduced requirement for abstraction from Anglian Water's sources and, therefore, potential for beneficial impacts to support natural resources and ecosystem services. There is not expected to be any scope for the delivery or provision of Biodiversity Net Gain as part of this action.	None	Minor beneficial
Biodiversity, flora and fauna	1.3 To avoid introducing or spreading INNS.	n/a	n/a	n/a	n/a	n/a	n/a	Tariffs are likely to have no impact on avoiding the introduction or spreading of INNS, with reduced abstraction requirements leaving more water in river systems.	None	None
Biodiversity, flora and fauna	1.4 To meet WFD objectives relating to biodiversity.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	This action will reduce the need for water abstraction from Anglian Water's sources during drought periods, easing pressure on aquatic ecosystems. This will help maintain natural flow levels, prevent further ecological degradation, and support the resilience of habitats and species.	None	Minor beneficial
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Large	High	Short-term	Temporary	Low (beneficial) Low (adverse)	Medium	This action will encourage responsible water use and water savings, which will contribute towards improving the security of supply of water in the Anglian Water supply region by discouraging high water use in dry months, when supplies are more limited and encouraging behaviour change. However, tariffs may disproportionately impact vulnerable or low-income households, especially those with high essential water needs (e.g., medical use, larger families), potentially increasing stress and affecting well-being.	Minor adverse	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Medium	Low	Short-term	Temporary	Medium (adverse)	Medium	Higher costs associated with tariffs may discourage the use of recreational features, particularly those that rely heavily on water. Water-dependent recreational facilities such as waterparks may pass on increased operational costs to visitors, potentially making them less accessible and adversely affecting tourism and recreation in the region. Additionally, these tariffs may disproportionately impact low-income households, limiting their ability to participate in informal outdoor activities such as gardening, playing in paddling pools, or enjoying green spaces.	Moderate adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Medium	Medium	Short-term	Temporary	Medium (adverse)	Low (adverse)	Tariffs carry a risk of temporary economic impact on businesses that rely directly or indirectly on water use, potentially due to increased operational costs, an effect likely to be more pronounced for small businesses with limited capacity to absorb additional expenses. This is considered as a minor adverse impact owing to the targeted price signals to reduce water use. The scheme is in pilot phase and may be adjusted to address any issues. No direct health or wellbeing risks are expected.	Minor adverse	None
Material assets and resource use	3.1 To minimise waste, promote resource efficiency and move towards a circular economy.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	Tariffs are expected to reduce water demand across the region by encouraging more efficient use of existing water resources. These measures are not anticipated to generate any significant waste.	None	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	Medium	Medium	Short-term	Temporary	Medium (adverse) Low (beneficial)	Low (adverse) Medium (beneficial)	Seasonal tariffs may raise concerns around affordability and equitable access, particularly for vulnerable households during peak demand periods. However, smart metering and incentives or rewards could mitigate these risks. The scheme is in pilot phase and may be adjusted to address any issues. The scheme may help promote water efficiency without disproportionately disadvantaging certain groups. Overall, a minor adverse effect is anticipated, with potential for minor beneficial outcomes depending on scheme design and implementation.	Minor adverse	Minor beneficial
Water	4.1 To maintain or improve the quality of surface and groundwater resources.	Medium	Low	Short-term	Temporary	Low (beneficial)	Medium	Reductions in demand for water would result in reduced requirement for abstraction at source, reducing the risk of associated impacts on surface water quality in drought conditions.	None	Minor beneficial
Water	4.2 To protect and enhance surface and groundwater levels and flows.	Medium	Low	Short-term	Temporary	Low (beneficial)	Medium	Reduction in demand for water will result in reduced requirement for abstraction from Anglian Water's sources, reducing the impacts on water levels and river flows in drought conditions.	None	Minor beneficial
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources, including contributing to the achievement of WFD compliance objectives.	Medium	Low	Short-term	Temporary	Low (beneficial)	Medium	Reduction in demand for water will result in reduced requirement for abstraction from Anglian Water's sources, helping provide some protection for water-dependent ecosystems.	None	Minor beneficial
Water	4.4 To promote water efficiency and actions that enable sustainable water use.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	This action will have a beneficial impact on water, acknowledging that reduced consumer demand for water will result in reduced requirement for abstraction at source.	None	Minor beneficial
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and protect and enhance geodiversity and ensure appropriate and efficient use of land.	n/a	n/a	n/a	n/a	n/a	n/a	No impacts on geology, geomorphology and quality/quantity of soils are anticipated as a result of this action.	None	None
Air and Climate	6.1 To maintain and improve air quality.	n/a	n/a	n/a	n/a	n/a	n/a	The action will not involve construction or associated air emissions.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Low	Tariffs may reduce water consumption, which in turn reduces energy use in abstraction, treatment, and pumping. Lower energy demand leads to a reduction in greenhouse gas emissions associated with the water supply system.	None	Negligible beneficial
Air and climate	6.3 To consider the need for adaptive actions for climate change.	Medium	High	Short-term	Temporary	Low (beneficial)	High	Tariffs are short-term drought responses which also serve as practical steps toward longer-term climate adaptation by influencing water use behaviour, improving system flexibility, and enhancing resilience.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Low	Tariffs are considered to have no direct impact on the historic environment, heritage assets and their settings and archaeologically important sites. There is the potential for reduced consumer demand for water to result in reduced requirement for abstraction at Anglian Water's sources, potentially reducing any impacts of drought-related effects on archaeology and cultural heritage assets.	None	Negligible beneficial
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, landscape character and visual amenity.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Low	Tariffs are considered to have no direct impact on landscape and visual amenity or any changes to access to the countryside or open space. There is the potential for reduced consumer demand for water to result in reduced requirement for abstraction at Anglian Water's sources, potentially reducing any impacts of drought-related landscape or visual impacts.	None	Negligible beneficial

Drought Plan Action:	Targeted Leakage Reduction
Description	Enhancing leakage management practices in areas at risk from drought. Utilising the PALM approach – Prevent, Awareness, Locate and Mend. May require some standard minor construction work to fix leaks, replace mains and improve the network etc.

SEA topics and objectives		Assessment of Drought Action									
Topic	Objective	Scale of effect: geographical &/or population affected (Small/Medium/Large)	Certainty of effect (Low/Medium/High)	Duration of effect (Short-term/Medium-term/Long-term)	Permanence of effect (Permanent/Temporary)	Magnitude of effect (Low/Medium/High)	Value/ sensitivity of receptor (Low/Medium/High)	Residual effect on sensitive receptors (assuming good practice construction methods) (construction and operation)	Commentary	Residual adverse effect significance (likely to remain after reasonable mitigation)	Residual beneficial effect significance (likely to remain after reasonable mitigation)
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species), enhance ecosystem resilience and habitat connectivity.	Medium	Medium	Short-term (adverse) Long-term (beneficial)	Temporary (adverse) Permanent (beneficial)	Low (adverse) Low (beneficial)	Low (adverse) Medium (beneficial)	Construction activities associated with leakage detection and repair activities may result in temporary disturbance to local habitats and species during the works. The majority of works are anticipated to be in an urban setting. Assuming good practice construction methods, impacts of the construction phase are anticipated to be negligible. The reduction in water lost through leakage will result in a reduced requirement for abstraction at source and therefore, there is potential for beneficial impacts on flow and sensitive habitats/species.		Negligible adverse	Minor beneficial
Biodiversity, flora and fauna	1.2 To protect and enhance sustainable natural resources and the ecosystem services they provide and deliver a biodiversity net gain.	Medium	Medium	Short-term (adverse) Long-term (beneficial)	Temporary (adverse) Permanent (beneficial)	Low (adverse) Low (beneficial)	Low (adverse) Medium (beneficial)	Construction activities associated with leakage detection may have minor adverse effects on some local habitats. However, as these works are expected to occur primarily in urban areas, and include the implementation of good practice construction methods, any impacts during the construction phase are anticipated to be negligible. It is recognised that reduced consumer demand for water will lessen the need for abstraction from Anglian Water's sources. This may result in beneficial effects by supporting natural resources and enhancing ecosystem services. There is not expected to be any scope for delivery or provision of Biodiversity Net Gain as part of this action.		Negligible adverse	Minor beneficial
Biodiversity, flora and fauna	1.3 To avoid introducing or spreading INNS.	Medium	Medium	Short-term (adverse) Long-term (beneficial)	Temporary (adverse) Permanent (beneficial)	Low (adverse)	Low	Leakage detection and repair activities may have a minor effect on the spread of INNS through limited vehicle and equipment movement and ground disturbance. Appropriate biosecurity measures should be implemented.		Negligible adverse	None
Biodiversity, flora and fauna	1.4 To meet WFD objectives relating to biodiversity.	Medium	Medium	Long-term	Permanent	Low (beneficial)	Medium	Leakage reduction will enable water savings and reduce the need for water abstraction from Anglian Water's sources, easing pressure on aquatic ecosystems. This will help maintain natural flow levels, prevent further ecological degradation, and support the resilience of habitats and species.		None	Minor beneficial
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Large	Medium	Short-term (adverse) Long-term (beneficial)	Temporary (adverse) Permanent (beneficial)	Low (adverse) Medium (beneficial)	Low (adverse) Medium (beneficial)	Leakage reduction will help to ensure levels of service are maintained through enabling provision of water that would have otherwise been lost to leakage. As there is an increased cost associated with an increased effort in finding and fixing leaks, the action could result in an increase in average customer bills, which could adversely affect cost-sensitive customers.		Negligible adverse	Moderate beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Medium	Low	Short-term (adverse) Long-term (beneficial)	Temporary (adverse) Permanent (beneficial)	Low (adverse) Low (beneficial)	Low (adverse) Medium (beneficial)	Construction activities associated with leakage detection and repair activities may result in temporary nuisance effects associated with traffic and noise. However, these will be short term at any one location (likely to be urban) and assuming best practice construction methods, effects will be minimal. It is assumed that public rights of way will be maintained during repair activities and there will be no effects on recreational opportunity. Leakage reduction may support and improve river flows and associated recreational activities in the long term.		Negligible adverse	Minor beneficial
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Medium	Medium	Long-term	Permanent	Medium (beneficial)	Medium	This drought action will help maintain water supply reliability during drought conditions, supporting a resilient water supply for both customers and economic activity.		None	Moderate beneficial
Material assets and resource use	3.1 To minimise waste, promote resource efficiency and move towards a circular economy.	Medium	High	Short-term (adverse) Long-term (beneficial)	Permanent	Low (beneficial) Low (adverse)	Low (beneficial) Low (adverse)	Enhanced leakage reduction through targeted 'find and fix' approaches will reduce water loss within the supply network, leading to lower energy and chemical use associated with water treatment and distribution. The intervention will make use of existing infrastructure, minimising the need for new construction. Where repairs require the use of raw materials, it is assumed these will be sourced locally to reduce transport impacts and support the local economy.		Negligible adverse	Negligible beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	Medium	Medium	Long-term	Permanent	Low (beneficial)	Medium (beneficial)	Leakage reduction will actively promote efficient water resource management and sustainable management of natural resources.		None	Minor beneficial
Water	4.1 To maintain or improve the quality of surface and groundwater resources.	Medium	Medium	Long-term (beneficial) Short-term (adverse)	Permanent (beneficial) Temporary (adverse)	Low (beneficial) Low (adverse)	Low	Construction activities associated with leakage detection and repair activities may result in the potential for impacting on local surface and groundwater quality. Assuming best practice construction methods, impacts of the construction phase are anticipated to be negligible. The reduction in water lost through leakage will result in reduced requirement for abstraction at source, and therefore also mitigate any surface water quality effects associated with abstraction.		Negligible adverse	Negligible beneficial
Water	4.2 To protect and enhance surface and groundwater levels and flows.	Medium	Medium	Long-term	Permanent	Low (beneficial)	Medium	Leakage reduction will indirectly reduce the requirement for abstraction at source, improving and maintaining natural flow regimes.		None	Minor beneficial
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources, including contributing to the achievement of WFD compliance objectives.	Medium	Medium	Medium to Long-term	Permanent	Low (beneficial)	Medium	This action will have a beneficial impact on maintenance of water supplies, through reduced consumer demand for water, resulting in reduced requirement for abstraction at source. This may have medium to long-term impacts on consumer water usage.		None	Minor beneficial
Water	4.4 To promote water efficiency and actions that enable sustainable water use.	Medium	Medium	Long-term	Permanent	Low (beneficial)	Medium	Leakage repair and reduction improve water efficiency in the long term by preventing the unnecessary loss of water that has already been abstracted, treated, and pressurised. This enhances overall system efficiency by ensuring more of the water supplied reaches end-users.		None	Minor beneficial
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and protect and enhance geodiversity and ensure appropriate and efficient use of land.	Small	High	Short-term	Temporary	Low (adverse)	Low	Construction activities associated with leakage reduction activity and 'fix and find' approaches may result in localised disturbance to geology and land use. However, repair activity will take place on pipelines which are already in situ.		Negligible adverse	None
Air and Climate	6.1 To maintain and improve air quality.	Small	Low	Short-term	Temporary	Low (adverse)	Medium	Vehicle trips necessary for leakage detection and repair will cause emissions affecting air quality, including some within Air Quality Management Areas in Anglian Water's supply area.		Minor adverse	None
Air and climate	6.2 To reduce greenhouse gas emissions.	Medium	Medium	Short-term (adverse) Long-term (beneficial)	Permanent (beneficial) Temporary (adverse)	Low (beneficial) Low (adverse)	Medium	Vehicle trips necessary for leakage detection and repair will cause emissions of greenhouse gas emissions. Leakage detection and repairs will result in the reduction of water lost in the supply network and long term energy savings associated with this reduction (decreased greenhouse gas emissions associated with decreased need for water treatment and pumping).		Minor adverse	Minor beneficial
Air and climate	6.3 To consider the need for adaptive actions for climate change.	Small	High	Long-term	Permanent	Low (beneficial)	High	Demand management actions are a key component of Anglian Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought which may become more prevalent due to climate change. Leakage reduction increases system resilience to more frequent and severe droughts by preserving water within the network.		None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	Increased leakage reduction activity through 'fix and find' approaches will take place on pipelines which are already in situ, and, as such, it is not anticipated that any sites of archaeological or cultural heritage importance will be affected. The setting of any surrounding heritage assets may be impacted for the short term, however, considering the action is an acceleration of ongoing leakage reduction activity this is considered to be negligible.		Negligible adverse	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, landscape character and visual amenity.	Small	Medium	Short-term (adverse) Long-term (beneficial)	Temporary	Low (adverse) Low (beneficial)	Low	The majority of works are anticipated to be in an urban setting. Assuming best practice construction methods, impacts of the construction phase are anticipated to be negligible. The scheme will have no direct effect on landscape and visual amenity in operation. It is acknowledged that reduced water loss due to leakage will result in reduced requirement for abstraction at source, potentially reducing any impacts of drought related landscape or visual impacts. Impacts on landscape and visual amenity are anticipated to be negligible.		Negligible adverse	Negligible beneficial

Drought Plan Action:	Pressure Optimisation									
Description:	This action will involve utilising Anglian Water’s network of Pressure Reducing Valves (PRVs) to control and manage water pressure in targeted areas. By adjusting pressure to the minimum level needed to meet customer demand while maintaining system integrity, it will help reduce water loss from leaks and unnecessary consumption. This, in turn, will lower overall demand in drought-risk areas without impacting customer service. Where necessary, minor construction work may be required to install new PRVs or upgrade existing ones to improve pressure management.									
SEA topics and objectives		Assessment of Drought Action								
Topic	Objective	Scale of effect: geographical &/or population affected (Small/Medium/Large)	Certainty of effect (Low/Medium/High)	Duration of effect (Short-term/Medium-term/Long-term)	Permanence of effect (Permanent/ Temporary)	Magnitude of effect (Low/Medium/High)	Value/ sensitivity of receptor (Low/Medium/High)	Residual effect on sensitive receptors (assuming good practice construction methods) Commentary (construction and operation)	Residual adverse effect significance (likely to remain after reasonable mitigation)	Residual beneficial effect significance (likely to remain after reasonable mitigation)
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species), enhance ecosystem resilience and habitat connectivity.	Small	High	Short-term	Temporary (adverse) Permanent (beneficial)	Low (adverse) Low (beneficial)	Medium	Pressure Reducing Valves (PRVs) are permanent installations used to control and manage water pressure in targeted areas. When installation is required, local site preparation will involve excavation to access the pipes, fitting the valves into the pipeline, and subsequent site restoration. Although specific installation locations have yet to be determined, minor adverse impacts from temporary disturbance during groundworks are anticipated due to the potential proximity of sites to designated areas, priority habitats, or protected species. It is anticipated that these impacts will be limited to existing pipeline routes and infrastructure, minimising disturbance. Therefore, best practice measures will be essential during construction to minimise disturbance. During operation, minor beneficial impacts are expected through reduced water loss from unnecessary consumption. This reduction in demand decreases abstraction from natural water sources, potentially providing secondary benefits for biodiversity, ecosystems, and the wider natural environment.	Minor adverse	Minor beneficial
Biodiversity, flora and fauna	1.2 To protect and enhance sustainable natural resources and the ecosystem services they provide and deliver a biodiversity net gain.	Small	Medium	Short-term	Temporary (adverse) Permanent (beneficial)	Low (adverse) Low (beneficial)	Medium	Installation of PRVs may cause temporary disturbance to local habitats. It is anticipated that these impacts will be limited to existing pipeline routes and infrastructure, minimising disturbance. However, adverse impacts can be mitigated through best practice construction techniques, so only minor adverse impacts are anticipated. Reduced consumer water demand associated with PRVs will lessen the need for abstraction from Anglian Water’s sources. This reduction may have beneficial effects by supporting natural resources and enhancing ecosystem services. There is also potential for beneficial opportunities such as compensatory planting and habitat enhancement, leading to minor beneficial impacts. A Biodiversity Net Gain (BNG) assessment has not been conducted at this stage.	Minor adverse	Minor beneficial
Biodiversity, flora and fauna	1.3 To avoid introducing or spreading INNS.	Small	Low	Short-term	Temporary	Low (adverse)	Low	There is potential for the spread of INNS during the construction phase, although the extent of this risk remains uncertain. However, adverse impacts can be minimised through best practice construction techniques, so only negligible adverse impacts are anticipated. No additional risk of INNS spread is expected during the operational phase.	Negligible adverse	None
Biodiversity, flora and fauna	1.4 To meet WFD objectives relating to biodiversity.	Small	Medium	Long-term	Permanent	Low (beneficial)	Medium	Pressure optimisation will encourage water savings and reduce the need for water abstraction from Anglian Water’s sources, easing pressure on aquatic ecosystems. This will help maintain natural flow levels, prevent further ecological degradation, and support the resilience of habitats and species.	None	Minor beneficial
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Medium	Low	Short-term	Temporary (adverse) Permanent (beneficial)	Low (adverse) Low (beneficial)	Low (adverse) Medium (beneficial)	Specific installation locations have yet to be determined. Nevertheless, during construction, there may be some temporary dust, noise and vibration effects and localised increases in traffic, but it is anticipated that this could be managed through good practice and is unlikely to be significant. Pressure optimisation will result in localised water savings which will contribute towards improving the security of supply for customers in Anglian Water’s supply region.	Negligible adverse	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Low	Short-term	Temporary	Low (adverse)	Low	Construction activities associated with pressure optimisation may result in temporary disturbance or disruption effects associated with traffic and noise. However, these will be short-term and localised (likely to be urban) and assuming best practice construction methods, effects will be minimal. It is assumed that public rights of way will be maintained during repair activities and there will be no effects on recreational opportunity. Reduced pressure may have adverse impacts on water dependant recreational activities due to delays e.g. filling swimming pools and ponds, however these are assessed as negligible.	Negligible adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Medium	Medium	Short-term	Permanent	Low (adverse) Low (beneficial)	Medium	There may be temporary disruptions of services or access/disturbance during the installation phase. The scheme may provide short-term local employment opportunities during the installation phase and stimulate local procurement. Pressure optimisation will result in water savings which will contribute towards improving the security of water supply for businesses in the region, therefore protecting the local economy. However, reduced pressure may have adverse impacts on water dependant businesses due to delays in providing services which rely on specific volumes or pressure of water e.g. non-domestic swimming pools, car/window washing businesses.	Minor adverse	Minor beneficial
Material assets and resource use	3.1 To minimise waste, promote resource efficiency and move towards a circular economy.	Small	High	Long-term	Temporary (adverse) Permanent (beneficial)	Low (adverse) Low (beneficial)	Medium (adverse) Low (beneficial)	The action will utilise existing infrastructure where possible. Installing PRVs may involve cutting and modifying existing pipes, with new pipework or fittings added as needed to connect the valves. Limited waste generation is anticipated which would be managed in accordance with standard construction waste protocols. As Anglian Water already operates an established network of PRVs, the scale of any new installations or enhancements is expected to be limited. As a result, only minor adverse impacts are anticipated.	Minor adverse	Negligible beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	Medium	Medium	Long-term	Permanent	Low (beneficial)	Medium	Pressure optimisation will promote efficient water resource management and sustainable management of natural resources.	None	Minor beneficial
Water	4.1 To maintain or improve the quality of surface and groundwater resources.	Medium	Medium	Long-term	Permanent	Low (beneficial)	Medium	PRVs are permanent fixtures and therefore pressure optimisation could act to reduce demand (and therefore abstraction requirements) over the long term, which could have some minor beneficial secondary effects for both groundwater and surface water quality.	None	Minor beneficial
Water	4.2 To protect and enhance surface and groundwater levels and flows.	Medium	Medium	Long-term	Permanent	Low (beneficial)	Medium	PRVs are a permanent fixture and as such could act to reduce demand (and therefore abstraction requirements) over the long term, which could have some minor beneficial secondary effects for river flows and groundwater resources.	None	Minor beneficial
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources, including contributing to the achievement of WFD compliance objectives.	Medium	High	Long-term	Permanent	Low (beneficial)	Medium	Reduction in demand for water will result in a reduced requirement for abstraction from Anglian Water’s sources, helping provide some protection for water-dependent ecosystems.	None	Minor beneficial
Water	4.4 To promote water efficiency and actions that enable sustainable water use.	Medium	Medium	Medium to Long-term	Permanent	Low (beneficial)	Medium	PRVs are permanent fixtures and would enable Anglian Water to maintain water supply while reducing water loss from leaks and unnecessary consumption.	None	Minor beneficial
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and protect and enhance geodiversity and ensure appropriate and efficient use of land.	Small	High	Short-term	Temporary	Low (adverse)	Low	The installation or enhancement of PRVs will require groundworks including excavation leading to some localised disturbance to soils, geology, and land use. These activities will be limited to existing pipeline routes and infrastructure, minimising the extent of disruption.	Negligible adverse	None
Air and Climate	6.1 To maintain and improve air quality.	Small	Low	Short-term	Temporary	Low (adverse)	Medium	Limited groundworks and excavation will be required along existing pipeline routes, which may cause temporary dust emissions and impacts on local receptors. Vehicle trips necessary for PRV installation and enhancement will cause emissions affecting local air quality, including some within Air Quality Management Areas (AQMAs) in Anglian Water’s supply area.	Minor adverse	None
Air and climate	6.2 To reduce greenhouse gas emissions.	Medium	Medium	Short-term (adverse) Long-term (beneficial)	Temporary (adverse) Permanent (beneficial)	Low (beneficial) Low (adverse)	Medium	Vehicle trips necessary for PRV installation and enhancement will cause greenhouse gas emissions. Pressure optimisation will result in reduced water loss from leaks and unnecessary consumption, leading to long-term associated energy savings (decreased greenhouse gas emissions associated with decreased need for water treatment and pumping).	Minor adverse	Minor beneficial
Air and climate	6.3 To consider the need for adaptive actions for climate change.	Small	High	Long-term	Permanent	Low (beneficial)	High	Demand management actions are a key component of Anglian Water’s Drought Plan. The Plan aims to ensure resilience of water supplies to drought, which may become more prevalent due to climate change. Pressure optimisation is a scalable adaptive action that will build resilience in Anglian Water’s supply systems.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Small	Medium	Short-term	Temporary (adverse) Permanent (beneficial)	Low (adverse)	Low	The setting of any surrounding heritage assets may be impacted for the short term during installation, however, this is considered to be negligible. There is the potential for reduced consumer demand for water to result in reduced requirement for abstraction at source, potentially reducing the magnitude of any drought related archaeology and cultural heritage impacts.	Negligible adverse	Negligible beneficial
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, landscape character and visual amenity.	Small	Medium	Short-term	Temporary (adverse) Permanent (beneficial)	Low (adverse)	Low	Some limited short-term impacts on visual amenity are anticipated during installation. However, as the installation and enhancement of PRVs do not involve any new above-ground structures, no operational visual impacts are expected. A reduction in consumer water demand could lower the need for water abstraction at the source, potentially lessening the severity of any drought-related landscape or visual impacts.	Negligible adverse	Negligible beneficial

Drought Plan Action:		Temporary Use Bans (TUBs) - Level 2									
Description		This action involves banning the use of hosepipes for a temporary period of time to conserve water resources. Hosepipe bans would primarily affect domestic customers.									
SEA topics and objectives											
Assessment of Drought Action											
Topic	Objective	Scale of effect: geographical &/or population affected (Small/Medium/Large)	Certainty of effect (Low/Medium/High)	Duration of effect (Short-term/Medium-term/Long-term)	Permanence of effect (Permanent/ Temporary)	Magnitude of effect (Low/Medium/High)	Value/ sensitivity of receptor (Low/Medium/High)	Residual effect on sensitive receptors (assuming good practice construction methods) (construction and operation)	Commentary	Residual adverse effect significance (likely to remain after reasonable mitigation)	Residual beneficial effect significance (likely to remain after reasonable mitigation)
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species), enhance ecosystem resilience and habitat connectivity.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	There are no groundworks or construction activities associated with this action. A temporary use ban is considered to have no impact on biodiversity, flora and fauna, other than to acknowledge that reduced consumer demand for water will result in a reduced requirement for abstraction at Anglian Water's sources and, therefore, there is the potential for beneficial impacts on flow, benefiting sensitive habitats and species and supporting ecosystem resilience.		None	Minor beneficial
Biodiversity, flora and fauna	1.2 To protect and enhance sustainable natural resources and the ecosystem services they provide and deliver a biodiversity net gain.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	There are no groundworks or construction activities associated with this action. A temporary use ban is considered to have no adverse impact on natural resources and ecosystem services. Reduced consumer demand for water will result in a reduced requirement for abstraction at Anglian Water's sources and, therefore, there is the potential for beneficial impacts to support better use of natural resources and support ecosystem services for longer. There is not expected to be scope to provide biodiversity net gain.		None	Minor beneficial
Biodiversity, flora and fauna	1.3 To avoid introducing or spreading INNS.	n/a	n/a	n/a	n/a	n/a	n/a	The temporary use ban is unlikely to have impact on the introduction or spreading of INNS, with reduced abstraction requirements leaving more water in river systems.		None	None
Biodiversity, flora and fauna	1.4 To meet WFD objectives relating to biodiversity.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	The ban will reduce the need for water abstraction from Anglian Water's sources, easing pressure on aquatic ecosystems. This will help maintain natural flow levels, prevent further ecological degradation, and support the resilience of habitats and species.		None	Minor beneficial
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Large	High	Short-term	Temporary	Low (adverse) Medium (beneficial)	Medium	The ban will provide water savings which will contribute towards improving security of supply of water in the Anglian Water supply region. Drinking water quality will not be affected by the restrictions and there will be no impact on essential water uses that are necessary to maintain public health and well-being of the population served by Anglian Water. Temporary restrictions on domestic water uses may reduce personal or community activities and may have a short-term impact on the standard of living.		Minor adverse	Moderate beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Medium	Medium	Short -term	Temporary	Low (adverse) Low (beneficial)	Medium	Reducing the demand for non-essential water use is unlikely to have any impacts for recreation, tourism and navigation. There may be some limited domestic impact, for example not being able to refill or maintain a domestic swimming pool. Beneficial effects are associated with the potential for maintaining flow levels in watercourses to support recreational activities, and improving recreational amenity.		Minor adverse	Minor beneficial
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Medium	Medium	Short -term	Temporary	Medium (adverse) Low (beneficial)	Medium	The principal impact will be on domestic customers as the ban would preclude the use of water for those use categories set out under the temporary use ban powers. The ban may indirectly adversely impact businesses which benefit from the use and sale of certain water-using appliances such as hosepipes and sprinklers. The TUBs would safeguard water supplies for critical needs to maintain essential services during drought and would ensure economic sustainability.		Moderate adverse	Minor beneficial
Material assets and resource use	3.1 To minimise waste, promote resource efficiency and move towards a circular economy.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	This action will not involve any increased material resource use and waste production. A hose-pipe ban will reduce the demand for water in the region, improving the efficiency of existing resource use		None	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	The ban will actively promote efficient water resource management and sustainable management of natural resources.		None	Minor beneficial
Water	4.1 To maintain or improve the quality of surface and groundwater resources.	Medium	Low	Short-term	Temporary	Low (beneficial)	Medium	Reductions in demand for water would result in reduced requirement for abstraction at source, reducing the risk of associated impacts on surface water quality in drought conditions.		None	Minor beneficial
Water	4.2 To protect and enhance surface and groundwater levels and flows.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	The ban will not result in, or modify any abstraction (surface water or groundwater). Reduction in demand for water will result in reduced requirement for abstraction from Anglian Water's sources, reducing the impacts on water levels and river flows in drought conditions, maintaining the natural dilution capacity in surface waters and aquifer integrity.		None	Minor beneficial
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources, including contributing to the achievement of WFD compliance objectives.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	Reduction in demand for water will result in a reduced requirement for abstraction from Anglian Water's sources, helping to provide some protection for water-dependent ecosystems.		None	Minor beneficial
Water	4.4 To promote water efficiency and actions that enable sustainable water use.	Medium	Medium	Medium - Long-term	Temporary - Permanent	Low (beneficial)	Medium	This action will have a short-term beneficial impact on water, acknowledging that reduced consumer demand for water will result in reduced requirement for abstraction at source. Induced behaviour changes may have medium to long-term impacts on consumer water usage.		None	Minor beneficial
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and protect and enhance geodiversity and ensure appropriate and efficient use of land.	n/a	n/a	n/a	n/a	n/a	n/a	No impacts on geology, geomorphology and quality/quantity of soils are anticipated as a result of the temporary use ban.		None	None
Air and Climate	6.1 To maintain and improve air quality.	n/a	n/a	n/a	n/a	n/a	n/a	No impacts on air quality are anticipated as a result of the temporary use ban.		None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	n/a	n/a	n/a	n/a	n/a	n/a	The ban will not involve an increase in energy consumption or associated greenhouse gas emissions.		None	None
Air and climate	6.3 To consider the need for adaptive actions for climate change.	Small	High	Short-term	Temporary	Low (beneficial)	Medium	Demand management actions are a key component of Anglian Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought which may become more prevalent due to climate change. TUBs alleviate pressure on vulnerable water sources and infrastructure during climate-induced low-flow periods. They are reactive by nature, allowing for response to climate impacts.		None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Medium	Low	Short-term	Temporary	Low (beneficial) Low (adverse)	Low	There may be minor adverse impacts associated with the setting of some heritage assets, for example, visual impacts on registered parks and gardens and /or the grounds of listed buildings due to restrictions on the use of water for any non-essential purposes. Notwithstanding these impacts, the ban is considered unlikely to have any direct impact on the historic environment, heritage assets and archaeologically important sites. There is the potential for reduced consumer demand for water to result in a reduced requirement for abstraction at Anglian Water's sources, potentially reducing the magnitude of any drought-related effects on archaeology and cultural heritage assets.		Negligible adverse	Negligible beneficial
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, landscape character and visual amenity.	Medium	Low	Short-term	Temporary	Low (beneficial) Low (adverse)	Low	There may be some localised adverse effects on townscapes and the setting of some visual amenities due to the ban on watering of gardens and grounds. However, the ban is considered to have no direct impact on landscape and visual amenity or any changes to access to the countryside or open space. There is the potential for reduced consumer demand for water to result in a reduced requirement for abstraction from Anglian Water's sources, potentially reducing the magnitude of any drought-related effects on landscape or visual amenity.		Negligible adverse	Negligible beneficial

Drought Plan Action:		Non-essential Use Ban (NEUBs) - Level 3								
Description		This action involves restricting water use by domestic customers, commercial users and business in order to conserve water resources.								
SEA topics and objectives		Assessment of Drought Action								
Topic	Objective	Scale of effect: geographical &/or population affected (Small/Medium/Large)	Certainty of effect (Low/Medium/High)	Duration of effect (Short-term/Medium-term/Long-term)	Permanence of effect (Permanent/Temporary)	Magnitude of effect (Low/Medium/High)	Value/ sensitivity of receptor (Low/Medium/High)	Residual effect on sensitive receptors (assuming good practice construction methods) Commentary (construction and operation)	Residual adverse effect significance (likely to remain after reasonable mitigation)	Residual beneficial effect significance (likely to remain after reasonable mitigation)
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species), enhance ecosystem resilience and habitat connectivity.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	There are no groundworks or construction activities associated with this action. Restricting non-essential water use is not expected to adversely impact biodiversity, flora, or fauna. However, it is acknowledged that reduced consumer demand for water will lead to a decreased need for abstraction from Anglian Water's sources, potentially resulting in indirect beneficial impacts on flow levels, and benefiting sensitive habitats and species and supporting ecosystem resilience. .	None	Minor beneficial
Biodiversity, flora and fauna	1.2 To protect and enhance sustainable natural resources and the ecosystem services they provide and deliver a biodiversity net gain.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	There are no groundworks or construction activities associated with this action. Restricting or limiting non-essential use is considered to have no adverse impact on natural resources or ecosystem services. It is acknowledged that reduced consumer demand for water will result in reduced requirement for abstraction from Anglian Water's sources and, therefore, potential for beneficial impacts to support natural resources and ecosystem services. There is not expected to be any scope for delivery or provision of Biodiversity Net Gain as part of this action.	None	Minor beneficial
Biodiversity, flora and fauna	1.3 To avoid introducing or spreading INNS.	n/a	n/a	n/a	n/a	n/a	n/a	The ban is likely to have no impact on the introduction or spreading of INNS, with reduced abstraction requirements leaving more water in river systems.	None	None
Biodiversity, flora and fauna	1.4 To meet WFD objectives relating to biodiversity.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	The ban will reduce the need for water abstraction from Anglian Water's sources, easing pressure on aquatic ecosystems. This will help maintain natural flow levels, prevent further ecological degradation, and support the resilience of habitats and species.	None	Minor beneficial
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Medium	High	Short-term	Temporary	Low (adverse) Medium (beneficial)	Medium	The ban will provide water savings which will contribute towards improving security of supply of water in the Anglian Water supply region. Drinking water quality will not be affected by the restrictions and there will be no impact on essential water uses that are necessary to maintain public health and well-being of the population served by Anglian Water. Temporary restrictions on non-essential water uses may reduce personal or community activities and may have a short-term impact on the standard of living.	Minor adverse	Moderate beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Medium	Short-term	Temporary	Medium (adverse) Low (beneficial)	Medium	There may be potential for moderate impacts upon recreational activities due to restrictions on filling of swimming pools, watering of sports pitches, etc. There may be moderate impacts associated with the setting of tourist attractions, for example, water features and parks/gardens associated with popular tourist sites. Beneficial effects are associated with the potential for maintaining flow levels in watercourses to support recreational activities, and improving recreational amenity.	Moderate adverse	Minor beneficial
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Medium	Medium	Short-term	Temporary	High (adverse) Low (beneficial)	Medium (adverse) Low (beneficial)	The ban carries the risk of some economic impact on businesses that benefit directly or indirectly from certain water uses that would be prohibited under the ban (e.g. sports and leisure facilities, window cleaning). The ban may result in some business loss if the water-related operations have to be suspended. Potential mitigation could involve publicity and consultation with the affected businesses in the run up to and during the drought. The NEUBs would safeguard water supplies for critical needs to maintain essential services during drought and would ensure economic sustainability during periods of drought.	Major adverse	Minor beneficial
Material assets and resource use	3.1 To minimise waste, promote resource efficiency and move towards a circular economy.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	The ban will reduce the demand for water in the region, improving the efficiency of existing water resource use. It will not result in any increase in the generation of waste.	None	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	Prohibiting or limiting non-essential use will actively promote efficient water resource management and sustainable management of natural resources.	None	Minor beneficial
Water	4.1 To maintain or improve the quality of surface and groundwater resources.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	Reductions in demand for water would result in a reduced requirement for abstraction at source, reducing the risk of associated impacts on surface water quality in drought conditions, maintaining the natural dilution capacity in surface waters and aquifer integrity.	None	Minor beneficial
Water	4.2 To protect and enhance surface and groundwater levels and flows.	Medium	Low	Short-term	Temporary	Low (beneficial)	Medium	The ban will not result in, or modify any abstraction (surface water or groundwater). Reduction in demand for water will result in a reduced requirement for abstraction from Anglian Water's sources, reducing the impacts on water levels and river flows in drought conditions.	None	Minor beneficial
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources, including contributing to the achievement of WFD compliance objectives.	Medium	Low	Short-term	Temporary	Low (beneficial)	Medium	Reduction in demand for water will result in reduced requirement for abstraction from Anglian Water's sources, helping provide some protection for water-dependent ecosystems.	None	Minor beneficial
Water	4.4 To promote water efficiency and actions that enable sustainable water use.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	This action will have a short-term beneficial impact on water, as reduced consumer demand for water will result in a reduced requirement for abstraction at source. Induced behaviour changes may have medium to long-term impacts on consumer water usage.	None	Minor beneficial
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and protect and enhance geodiversity and ensure appropriate and efficient use of land.	n/a	n/a	n/a	n/a	n/a	n/a	There are no groundworks or construction activities associated with this action. No impacts on geology, geomorphology and quality/quantity of soils are anticipated as a result of the temporary use ban.	None	None
Air and Climate	6.1 To maintain and improve air quality.	n/a	n/a	n/a	n/a	n/a	n/a	There are no construction activities associated with this action. The ban will not involve an increase in energy consumption or associated greenhouse gas emissions.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	n/a	n/a	n/a	n/a	n/a	n/a	There are no construction activities associated with this action. No impacts on air quality are anticipated as a result of the temporary use ban.	None	None
Air and climate	6.3 To consider the need for adaptive actions for climate change.	Small	High	Short-term	Temporary	Low (beneficial)	Medium	Demand management actions are a key component of Anglian Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought which may become more prevalent due to climate change. NEUBs are adaptive actions essential in managing water resources during times of climate variability, alleviating pressure on vulnerable water sources and infrastructure during climate-induced low-flow periods	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Medium	Low	Short-term	Temporary	Low (beneficial) Low (adverse)	Low	There may be minor adverse impacts associated with the setting of some heritage assets, for example, visual impacts on registered parks and gardens and /or the grounds of listed buildings due to restrictions on the use of water for any non-essential purposes. Notwithstanding these impacts, the ban is considered unlikely to have any direct impact on the historic environment, heritage assets and archaeologically important sites. There is the potential for reduced consumer demand for water to result in reduced requirement for abstraction at Anglian Water's sources, potentially reducing the magnitude of any drought-related effects on archaeology and cultural heritage assets.	Negligible adverse	Negligible beneficial
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, landscape character and visual amenity.	Medium	Low	Short-term	Temporary	Low (beneficial) Low (adverse)	Low	There may be some localised adverse effects on townscapes and the setting of some visual amenities due to the ban on watering of gardens and grounds. However, the ban is considered to have no direct impact on landscape and visual amenity or any changes to access to the countryside or open space. There is the potential for reduced consumer demand for water to result in reduced requirement for abstraction from Anglian Water's sources, potentially reducing the magnitude of any drought-related effects on landscape or visual amenity.	Negligible adverse	Negligible beneficial

Drought Plan Action:	Emergency drought orders - (Level 4)									
Description	Level 4 - introduction of the use of rota cuts via a drought order. This action is the most severe customer restrictions that can be imposed in a drought and would only be considered in the event that water supplies were severely depleted due to an exceptional shortage of rain. In this situation, Anglian Water may apply to the Secretary of State to limit or prohibit the use of water for any purpose considered appropriate, or the introduction of rota cuts to conserve water supplies.									
SEA topics and objectives		Assessment of Drought Action								
Topic	Objective	Scale of effect: geographical &/or population affected (Small/Medium/Large)	Certainty of effect (Low/Medium/High)	Duration of effect (Short-term/Medium-term/Long-term)	Permanence of effect (Permanent/Temporary)	Magnitude of effect (Low/Medium/High)	Value/ sensitivity of receptor (Low/Medium/High)	Residual effect on sensitive receptors (assuming good practice construction methods) Commentary (construction and operation)	Residual adverse effect significance (likely to remain after reasonable mitigation)	Residual beneficial effect significance (likely to remain after reasonable mitigation)
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species), enhance ecosystem resilience and habitat connectivity.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	Emergency Drought Order restrictions are considered to have no impact on biodiversity, flora and fauna, other than to acknowledge that reduced consumer demand for water will result in reduced requirement for abstraction from Anglian Water's sources and, therefore, potential for beneficial impacts on flow, sensitive habitats/species etc. However, it is likely the natural drought severity would already be at a level that is damaging to the environment.	None	Minor beneficial
Biodiversity, flora and fauna	1.2 To protect and enhance sustainable natural resources and the ecosystem services they provide and deliver a biodiversity net gain.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	An emergency drought order is considered to have no adverse impact on natural resources or ecosystem services. It is acknowledged that reduced consumer demand for water will result in reduced requirement for abstraction from Anglian Water sources in drought and, therefore, there is potential for beneficial impacts on these criteria. There is not expected to be any scope for the delivery or provision of Biodiversity Net Gain.	None	Minor beneficial
Biodiversity, flora and fauna	1.3 To avoid introducing or spreading INNS.	n/a	n/a	n/a	n/a	n/a	n/a	Emergency Drought Order restrictions are likely to have no impact on avoiding the introduction or spreading of INNS.	None	None
Biodiversity, flora and fauna	1.4 To meet WFD objectives relating to biodiversity.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	An Emergency Drought Order would lessen the demand for water abstraction from Anglian Water's sources, thereby reducing pressure on aquatic ecosystems. This would help preserve natural flow levels, limit further ecological harm, and support the resilience of local habitats and species. However, it is likely that the severity of the drought would already be causing environmental damage by the time such actions are introduced.	None	Minor beneficial
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Large	High	Short-term	Temporary	High (adverse) Medium (beneficial)	Medium (adverse) Medium (beneficial)	An Emergency Drought Order will provide water savings which will contribute towards maintaining the provision of water supplies for priority essential uses, preventing a complete loss of supply to customers. Drinking water quality may be adversely affected due to the intermittent nature of supplies and there may be a requirement under certain circumstances for customers to boil water for potable uses to protect public health. Customers will face considerable disruption to their daily lives as a result of intermittent supply provision.	Major adverse	Moderate beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Medium	Short-term	Temporary	High (adverse)	Medium	Depending on the scale of the Emergency Drought Order restrictions, there could potentially be significant impacts on recreation and tourism, particularly activities that may benefit directly or indirectly from water usage (e.g. swimming pools, sports pitches, the setting of tourist attractions and visual impacts on the grounds of popular tourist sites).	Major adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Medium	Medium	Short to medium-term	Temporary to permanent	High (adverse)	Medium	Depending on the scale of the required Emergency Drought Order demand restrictions, there could potentially be significant impacts on businesses/economy, particularly those that benefit directly or indirectly from water usage (e.g. window cleaning businesses, sports and leisure facilities, garden and landscape orientated businesses). Hotels and other holiday/tourist accommodation and camping sites will likely be adversely affected. In the worst case scenario, publicity regarding water restrictions may cause a loss of tourism revenue, as tourists delay or cancel trips to the affected area. Hospitality businesses are also likely to be adversely affected.	Major adverse	None
Material assets and resource use	3.1 To minimise waste, promote resource efficiency and move towards a circular economy.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	An Emergency Drought Order will reduce the demand for water in the region, thereby reducing water resource use. It will not result in any increase in the generation of waste.	None	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	n/a	n/a	n/a	n/a	n/a	n/a	No opportunities to promote the sustainable management of natural resources have been identified for this action.	None	None
Water	4.1 To maintain or improve the quality of surface and groundwater resources.	Medium	Low	Short-term	Temporary	Low (beneficial)	Medium	Reductions in demand for water would result in a reduced requirement for increased abstraction from Anglian Water's sources, reducing associated impacts on surface water quality during drought conditions.	None	Minor beneficial
Water	4.2 To protect and enhance surface and groundwater levels and flows.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	The Emergency Drought Order will not directly result in, or modify any abstraction (surface water or groundwater). Reduction in demand for water would reduce the need for abstraction, minimising impacts on water levels and river flows in drought conditions.	None	Minor beneficial
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources, including contributing to the achievement of WFD compliance objectives.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	Reduction in demand for water will result in a reduced requirement for abstraction from Anglian Water's sources, helping provide some protection for water-dependent ecosystems.	None	Minor beneficial
Water	4.4 To promote water efficiency and actions that enable sustainable water use.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	This action will have a temporary beneficial impact on water efficiency, as reduced consumer demand for water will result in reduced requirements for abstraction at source. This may have medium to long-term impacts on consumer water usage.	None	Minor beneficial
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and protect and enhance geodiversity and ensure appropriate and efficient use of land.	n/a	n/a	n/a	n/a	n/a	n/a	No impacts on geology, geomorphology, quality/quantity of soils and land use are anticipated as a result of an emergency drought order.	None	None
Air and Climate	6.1 To maintain and improve air quality.	n/a	n/a	n/a	n/a	n/a	n/a	No impacts on air quality are anticipated as a result of the use of an emergency drought order.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	n/a	n/a	n/a	n/a	n/a	n/a	The use of an emergency drought order will not involve any increased resource use, or increased greenhouse gas emissions.	None	None
Air and climate	6.3 To consider the need for adaptive actions for climate change.	Medium	High	Short-term	Temporary	High (adverse) Low (beneficial)	High	The drought order is a last resort to maintain priority essential water supplies to customers; as such it is not an action that improves the resilience of the water supply system to climate change threats.	Major adverse	Negligible beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Medium	Low	Short-term	Temporary	Low (adverse) Low (beneficial)	Low	There may be minor adverse impacts associated with the setting of some heritage assets, for example, visual impacts on registered parks and gardens and /or the grounds of listed buildings due to restrictions on the use of water for any non-essential purposes. Notwithstanding these impacts, the ban is considered unlikely to have any direct impact on the historic environment, heritage assets and archaeologically important sites. There is the potential for reduced consumer demand for water to result in reduced requirement for abstraction at Anglian Water's sources, potentially reducing the magnitude of any drought-related effects on archaeology and cultural heritage assets.	Negligible adverse	Negligible beneficial
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, landscape character and visual amenity.	Medium	Low	Short-term	Temporary	Low (adverse) Low (beneficial)	Low	There may be some localised adverse effects on townscapes and the setting of some visual amenities due to the ban on watering of gardens and grounds. However, the ban is considered to have no direct impact on landscape and visual amenity or any changes to access to the countryside or open space. There is the potential for reduced consumer demand for water to result in reduced requirement for abstraction from Anglian Water's sources, potentially reducing the magnitude of any drought-related effects on landscape or visual amenity.	Negligible adverse	Negligible beneficial

Drought Plan Action:	River Nene (Pitsford Water) - Summer
Description	The summer drought permit would authorise increased filling of Pitsford Reservoir by reducing the Minimum Residual Flow (MRF) at Duston Mill intake by up to 50%, from 34.1 Ml/d to 17.05 Ml/d, during the period April to September (inclusive). This option would only be considered during a severe, multi-season drought, where there is a risk of insufficient refill of Pitsford Reservoir. The permit would be valid for up to six months, after which a new application would be required for any extension.

SEA topics and objectives		Assessment of Drought Action							Residual adverse effect significance (likely to remain after reasonable mitigation)	Residual beneficial effect significance (likely to remain after reasonable mitigation)
Topic	Objective	Scale of effect: geographical &/or population affected (Small/Medium/Large)	Certainty of effect (Low/Medium/High)	Duration of effect (Short-term/Medium-term/Long-term)	Permanence of effect (Permanent/Temporary)	Magnitude of effect (Low/Medium/High)	Value/ sensitivity of receptor (Low/Medium/High)	Residual effect on sensitive receptors (assuming good practice construction methods) Commentary (construction and operation)		
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species), enhance ecosystem resilience and habitat connectivity.	Medium	Medium	Short-term	Temporary	Medium (adverse) Low (beneficial)	Medium	Statutory designated sites which are located within 500m of the assessed reaches, and have been deemed sensitive to potential hydrological impacts by the EAR, are listed with their associated sensitivity: Storton's Pits LNR - Medium, Pitsford Reservoir SSSI - Low, Barnes Meadow LNR - Low, Nene Washes SAC/SPA/Ramsar/SSSI - Medium. There may be a moderate adverse impact on Storton's Pits LNR resulting from the drought action in both summer and winter, and a minor impact on the Barnes Meadow LNR. There are many non-statutory designated sites (LWS, KWS) NERC Act Section 41 (S.41) Priority Habitats or other notable and/or protected habitats located within the Zone of Influence. Sensitivity ranges from uncertain to low. There may be minor impacts on Ecton Gravel Pits (East and West) LWS and Little Houghton Gravel Pits LWS resulting from the drought action in both summer and winter. The hydrological impacts in summer have been assessed as major-moderate in reaches 1 and 2, and minor and negligible downstream. The impact would manifest as reduction in flows and wetted width which would reduce habitat availability. The EAR identifies a major impact on Spined Loach. Moderate impact on Bullhead. Minor impact on European Eel and Barbel. A major impact is identified for WFD status (Fish) and moderate impact for WFD status (Invertebrates, Macrophytes), and minor impact for WFD status (Phytobenthos). Overall moderate adverse effects are anticipated because, while some receptors experience major impacts (e.g., Spined Loach and WFD Fish status), most designated sites and other species are affected at moderate or minor levels, resulting in a balanced moderate classification overall. Abstracted water would be used to refill the Pitsford Reservoir SSSI, delivering ecological benefits for species and habitats present there.	Moderate adverse	Minor beneficial
Biodiversity, flora and fauna	1.2 To protect and enhance sustainable natural resources and the ecosystem services they provide and deliver a biodiversity net gain.	Medium	Medium	Short-term	Temporary	Medium (adverse)	Medium	The most significant impacts during summer drought permit implementation are on sediment dynamics and flow hydraulics, both assessed as moderate. Reduced flows could alter sediment movement and storage, particularly increasing fine sediment deposition, and cause noticeable changes in velocity regimes, although level management will mitigate depth changes. Habitat impacts are minor and likely limited to localised effects on marginal exposure and maintenance. As the permit does not involve any construction activities, there will be no physical habitat loss or disturbance, and therefore no opportunities for compensatory planting or habitat enhancement. The action is located outside a designated Nature Improvement Area. The Biodiversity Net Gain (BNG) policy does not apply to projects where no groundworks, site clearance, or construction footprint will occur, and where there is no physical intervention that could impact existing habitats.	Moderate adverse	None
Biodiversity, flora and fauna	1.3 To avoid introducing or spreading INNS.	Small	Medium	Short-term	Temporary	Low (beneficial)	Medium	The EAR identified three invasive species of concern across the impacted reaches: Water fern, Nuttall's waterweed, and demon shrimp. Water fern forms dense surface mats, reducing light penetration and depleting oxygen levels in the water column, often resulting in ecological degradation. Nuttall's waterweed forms dense underwater stands that reduce habitat quality and oxygen availability. Demon shrimp could result in marked ecological change, leading to decreased diversity in the invaded range by competing with or preying upon larval fish, fish eggs and invertebrates. The implementation of a drought permit is unlikely to increase the risk of invasive non-native species spread and may slightly reduce downstream dispersal due to lower flows and reduced recreational activity during drought conditions.	None	Negligible beneficial
Biodiversity, flora and fauna	1.4 To meet WFD objectives relating to biodiversity.	Medium	Medium	Short-term	Temporary	Medium (adverse)	Medium	Across the reaches, negligible through to major hydrological impacts are anticipated from the drought action in winter and summer resulting in physical environment changes (river flows, river habitat and water quality) which present significant risks to WFD receptors. Overall, moderate adverse effects are anticipated towards meeting WFD biodiversity objectives, as the EAR indicates that physical changes to WFD status receptors will result in mostly negligible/minor and moderate impacts, with one major impact identified for fish.	Moderate adverse	None
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Large	Medium	Short-term	Temporary	Medium (beneficial)	Medium	This drought action will ensure a secure supply of water (up to 17.05 Ml/d), which is essential for community well-being and so, it could highlight the importance of the water environment as a critical resource for public health, recreation, and community resilience.	None	Moderate beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Medium	Short-term	Temporary	Medium (adverse)	Medium	In summer, navigation faces the greatest risk, with major impacts in Reaches 1, 5, and 6, and moderate impacts in Reaches 2. Reduced flows during peak boating season may require lockage restrictions and could increase algal blooms and weed growth, potentially impeding navigation. Angling and water sports are only marginally affected, with minor aesthetic changes and reduced fish welfare already discouraging activity under drought conditions. Walking and cycling impacts are negligible.	Moderate adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Medium	Medium	Short-term	Temporary	Medium (beneficial)	Medium	The drought action supports the objective by maintaining secure water resources (up to 17.05 Ml/d), which are fundamental to both economic sustainability and community wellbeing, while ensuring continued access to essential services.	None	Moderate beneficial
Material assets and resource use	3.1 To minimise waste, promote resource efficiency and move towards a circular economy.	Medium	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Low	The drought action involves a reduction in MRF only and no changes to energy use, generated waste or sustainable designs are envisaged. The action will make use of existing infrastructure.	Negligible adverse	Negligible beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	Medium	High	Short-term	Temporary	Low (beneficial)	Medium	This drought action will enhance the efficiency of water resource management to support the maintenance of essential public water supplies during drought conditions. It will support drought resilience and reservoir levels. May require optimisation of pumping setup to efficiently abstract at lower flows.	None	Minor beneficial
Water	4.1 To maintain or improve the quality of surface and groundwater resources.	Medium	High	Short-term	Temporary	Medium (adverse)	Medium	In summer, ammonia has negligible to moderate risk across all reaches. Dissolved oxygen has negligible to moderate risk of deterioration. Orthophosphate poses the greatest risk with impacts ranging from major and moderate in reach 1 and 2, to negligible in all other reaches. Overall, there is a moderate risk to water quality associated with the implementation of this drought action.	Moderate adverse	None
Water	4.2 To protect and enhance surface and groundwater levels and flows.	Medium	Medium to high	Short-term	Temporary	Medium (adverse)	Medium	This drought action is unlikely to protect or enhance surface and groundwater levels and flows, as it reduces residual flows to secure supply. The hydrological impacts in summer have been assessed as major-moderate in reaches 1 and 2, and negligible downstream.	Moderate adverse	None
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources, including contributing to the achievement of WFD compliance objectives.	Large	Medium	Short-term	Temporary	Medium (adverse) Medium (beneficial)	Medium	This drought action supports the sustainable management of water resources. There is no increase in pumping capacity, no new infrastructure, and no change to the maximum volume that can be taken. It will produce up to 17.05 Ml/d. Overall, in summer WFD status risks are negligible to moderate for ammonia, negligible to moderate for dissolved oxygen, and negligible to major for orthophosphate. Any deterioration would be temporary and recovery expected once normal flows resume.	Moderate adverse	Moderate beneficial
Water	4.4 To promote water efficiency and actions that enable sustainable water use.	Medium	Low	Short-term	Temporary	Low (beneficial)	Low	This drought action is unlikely to promote water efficiency or sustainable water use directly, though it supports supply security and may indirectly highlight the importance of efficiency measures. While the action does not improve efficiency directly, it is part of a broader drought response accompanied by public campaigns promoting efficient water use. By improving operational flexibility this action may indirectly support more sustainable water resource management.	None	Negligible beneficial
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and protect and enhance geodiversity and ensure appropriate and efficient use of land.	Small	Low	Short-term	Temporary	Low (adverse) Low (beneficial)	Medium	Grade 2 soil is found along and nearby parts of the reaches. These types of soils are typically used for high value crops, which may require irrigation. The scheme may temporarily limit irrigation water, lowering soil moisture and groundwater recharge. The EAR identified minor to moderate impacts to geomorphology as a result of reduced flow altering the sediment transport capacity. The scheme would take place on previously developed land which supports efficient use of land.	Minor adverse	Minor beneficial
Air and Climate	6.1 To maintain and improve air quality.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	The drought action involves a reduction in river flow and is therefore unlikely to result in significant increases in atmospheric emissions. However, increased abstraction at higher rates during low-flow conditions may lead to a slight increase in electricity consumption for pumping.	Negligible adverse	None
Air and climate	6.2 To reduce greenhouse gas emissions.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	The drought action involves a reduction in river flow and is therefore unlikely to result in significant increases in greenhouse gas emissions. However, increased abstraction at higher rates during low-flow conditions may lead to a slight increase in electricity consumption for pumping.	Negligible adverse	None
Air and climate	6.3 To consider the need for adaptive actions for climate change.	Medium	Medium	Long-term	Temporary	Medium (beneficial)	Medium	Drought actions are a key component of Anglian Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought conditions which may become more prevalent due to climate change, supporting climate adaptation goals by reducing vulnerability to supply stress.	None	Moderate beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Small	Low	Short-term	Temporary	Low (adverse)	Medium	There are numerous historic environment remains and features within the potential zone of influence. Key risk would be associated with a further short-term drawdown in river levels potentially affecting riverside designations (e.g. Scheduled Monuments) and buried archaeology, although this would be in the context of already low river flows due to prolonged low rainfall.	Minor adverse	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, landscape character and visual amenity.	N/A	N/A	N/A	N/A	N/A	N/A	No construction activities are required for this action. The action is not located in proximity to any designated landscapes. Under drought conditions, this action is unlikely to compound impacts on the surrounding landscape.	None	None

Drought Plan Action:	River Nene (Pitsford Water) - Winter									
Drought Plan Description:	The winter drought permit would authorise increased filling of Pitsford Reservoir by reducing the Minimum Residual Flow (MRF) at Duston Mill intake by up to 50%, from 34.1 MI/d to 17.05 MI/d, during the period October to March (inclusive). This permit would only be considered during a severe, possibly multi-season drought, where there is a risk of compromising Anglian Water's ability to refill Pitsford Reservoir.									
SEA topics and objectives	Assessment of Drought Action								Residual adverse effect significance (likely to remain after reasonable mitigation)	Residual beneficial effect significance (likely to remain after reasonable mitigation)
Topic	Objective	Scale of effect: geographical &/or population affected (Small/Medium/Large)	Certainty of effect (Low/Medium/High)	Duration of effect (Short-term/Medium-term/Long-term)	Permanence of effect (Permanent/Temporary)	Magnitude of effect (Low/Medium/High)	Value/ sensitivity of receptor (Low/Medium/High)	Residual effect on sensitive receptors (assuming good practice construction methods and operation) Commentary (construction and operation)		
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species), enhance ecosystem resilience and habitat connectivity.	Medium	Medium	Short-term	Temporary	Medium (adverse)	Medium	Statutory designated sites which are located within 500m of the assessed reaches, and have been deemed sensitive to potential hydrological impacts by the EAR, are listed with their associated sensitivity: Storton's Pits LNR - Medium, Pitsford Reservoir SSSI - Low, Barnes Meadow LNR - Low, Nene Washes SAC/SPA/Ramsar/SSSI - Medium. There may be a moderate adverse impact on Storton's Pits LNR resulting from the drought action in both summer and winter, and a minor impact on Barnes Meadow LNR. There are many non-statutory designated sites (LWS, KWS) NERC Act Section 41 (S.41) Priority Habitats or other notable and/or protected habitats located within the Zone of Influence. Sensitivity ranges from uncertain to low. There may be a minor impact on Ecton Gravel Pits (East and West) LWS and Little Houghton Gravel Pits LWS resulting from the drought action in both summer and winter. There may be minor impacts on the Woodston Ponds LNR, Boardwalks LNR and Coastal and floodplain grazing marshes resulting from the drought action in winter. The hydrological impacts in winter have been assessed as major-moderate in reaches 1 and 2, and minor and negligible downstream. The impact would manifest as reduction in flows and wetted width which would reduce habitat availability. The EAR identifies moderate impacts on Spined Loach and Bullhead. Minor impacts on European Eel and Barbel. Moderate impacts are identified for WFD status (Fish and Invertebrates), and minor impacts to WFD status (Macrophytes and Phytobenthos). Overall, moderate adverse effects are anticipated because key species such as Spined Loach and Bullhead and sites like Storton's Pits LNR are moderately affected, whereas most other designated sites and habitats experience only minor impacts, supporting an overall moderate classification. Abstracted water would be used to refill the Pitsford Reservoir SSSI, delivering ecological benefits for species and habitats present there.	Moderate adverse	None
Biodiversity, flora and fauna	1.2 To protect and enhance sustainable natural resources and the ecosystem services they provide and deliver a biodiversity net gain.	Medium	Medium	Short-term	Temporary	Medium (adverse)	Medium	In winter, the greatest risks relate to sediment dynamics and flow hydraulics, with medium impacts expected. Reduced flows combined with potential storm events may lead to changes in sediment movement and storage, while significant reductions in flow could alter velocity regimes despite level management. Habitat impacts remain minor and localised, with no anticipated changes to connectivity or channel morphology. As the permit does not involve any construction activities, there will be no physical habitat loss or disturbance, and therefore no opportunities for compensatory planting or habitat enhancement. The action is located outside a designated Nature Improvement Area. The Biodiversity Net Gain (BNG) policy does not apply to projects where no groundworks, site clearance, or construction footprint will occur, and where there is no physical intervention that could impact existing habitats.	Moderate adverse	None
Biodiversity, flora and fauna	1.3 To avoid introducing or spreading INNS.	Small	Medium	Short-term	Temporary	Low (beneficial)	Medium	The EAR identified three invasive species of concern across the impacted reaches: Water fern, Nuttall's waterweed, and demon shrimp. Water fern forms dense surface mats, reducing light penetration and depleting oxygen levels in the water column, often resulting in ecological degradation. Nuttall's waterweed forms dense underwater stands that reduce habitat quality and oxygen availability. Demon shrimp could result in marked ecological change, leading to decreased diversity in the invaded range by competing with or preying upon larval fish, fish eggs and invertebrates. The implementation of a drought permit is unlikely to increase the risk of invasive non-native species spread and may slightly reduce downstream dispersal due to lower flows and reduced recreational activity during drought conditions.	None	Negligible beneficial
Biodiversity, flora and fauna	1.4 To meet WFD objectives relating to biodiversity.	Medium	Medium	Short-term	Temporary	Medium (adverse)	Medium	Across the reaches negligible through to major hydrological impacts are anticipated from the drought action in winter and summer resulting in physical environment changes (river flows, river habitat and water quality) which present significant risks to WFD receptors. Overall, moderate adverse effects are anticipated towards meeting WFD biodiversity objectives, as the EAR indicates that physical changes to WFD status receptors will result in mostly negligible/minor and moderate impacts.	Moderate adverse	None
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Large	Medium	Short-term	Temporary	Medium (beneficial)	Medium	This drought action will ensure a secure supply of water (up to 17.05 MI/d), which is essential for community well-being and so, it could highlight the importance of the water environment as a critical resource for public health, recreation, and community resilience.	None	Moderate beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Medium	Short-term	Temporary	Low (adverse)	Medium	In winter navigation remains the most affected receptor, with major impacts in Reaches 5 and 6 and moderate impacts in Reaches 1 and 2. However, lower seasonal boating activity and level management reduce practical risk, as minimum navigable depth is maintained. Other recreational uses, including angling, water sports, and riverside walking/cycling, experience negligible impacts beyond minor aesthetic changes.	Minor adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Medium	Medium	Short-term	Temporary	Medium (beneficial)	Medium	The drought action supports the objective by maintaining secure water resources (up to 17.05 MI/d), which are fundamental to both economic sustainability and community wellbeing, while ensuring continued access to essential services.	None	Moderate beneficial
Material assets and resource use	3.1 To minimise waste, promote resource efficiency and move towards a circular economy.	Medium	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Low	The drought action involves a reduction in MRF only and no changes to energy use, generated waste or sustainable designs are envisaged. The action will make use of existing infrastructure.	Negligible adverse	Negligible beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	Medium	High	Short-term	Temporary	Low (beneficial)	Medium	This drought action will enhance the efficiency of water resource management to support the maintenance of essential public water supplies during drought conditions. It will support drought resilience and reservoir levels. May require optimisation of pumping setup to efficiently abstract at lower flows.	None	Minor beneficial
Water	4.1 To maintain or improve the quality of surface and groundwater resources.	Medium	High	Short-term	Temporary	Low (adverse)	Medium	In winter, ammonia has negligible to moderate risk across all reaches. Dissolved oxygen has negligible to moderate risk of deterioration. Orthophosphate poses the greatest risk with impacts ranging from major and moderate in reach 1 and 2, to mostly negligible and minor in other reaches. Overall, there is a moderate risk to water quality associated with the implementation of this drought action.	Moderate adverse	None
Water	4.2 To protect and enhance surface and groundwater levels and flows.	Medium	Medium to high	Short-term	Temporary	Low (adverse)	Medium	This drought action is unlikely to protect or enhance surface and groundwater levels and flows, as it reduces residual flows to secure supply. The hydrological impacts in winter have been assessed as major-moderate in reaches 1 and 2, and minor and negligible downstream.	Minor adverse	None
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources, including contributing to the achievement of WFD compliance objectives.	Large	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Medium	This drought action supports the sustainable management of water resources. There is no increase in pumping capacity, no new infrastructure, and no change to the maximum volume that can be taken. It will produce up to 17.05 MI/d. Overall, in winter WFD status risks are negligible to moderate for ammonia, negligible to moderate for dissolved oxygen, and negligible to major for orthophosphate. Any deterioration would be temporary and recovery expected once normal flows resume.	Moderate adverse	Moderate beneficial
Water	4.4 To promote water efficiency and actions that enable sustainable water use.	Medium	Low	Short-term	Temporary	Low (beneficial)	Low	This drought action is unlikely to promote water efficiency or sustainable water use directly, though it supports supply security and may indirectly highlight the importance of efficiency measures. While the action does not improve efficiency directly, it is part of a broader drought response accompanied by public campaigns promoting efficient water use. By improving operational flexibility this action may indirectly support more sustainable water resource management.	None	Negligible beneficial
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and protect and enhance geodiversity and ensure appropriate and efficient use of land.	Small	Low	Short-term	Temporary	Low (adverse) Low (beneficial)	Medium	Grade 2 soil is found along and nearby parts of the reaches. These types of soils are typically used for high value crops, which may require irrigation. The scheme may temporarily limit irrigation water, lowering soil moisture and groundwater recharge. The EAR identified predominantly negligible, but also minor and moderate impacts to geomorphology as a result of reduced flow altering the sediment transport capacity. The scheme would take place on previously developed land which supports efficient use of land.	Minor adverse	Minor beneficial
Air and Climate	6.1 To maintain and improve air quality.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	The drought action involves a reduction in river flow and is therefore unlikely to result in significant increases in atmospheric emissions. However, increased abstraction at higher rates during low-flow conditions may lead to a slight increase in electricity consumption for pumping.	Negligible adverse	None
Air and climate	6.2 To reduce greenhouse gas emissions.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	The drought action involves a reduction in river flow and is therefore unlikely to result in significant increases in greenhouse gas emissions. However, increased abstraction at higher rates during low-flow conditions may lead to a slight increase in electricity consumption for pumping.	Negligible adverse	None
Air and climate	6.3 To consider the need for adaptive actions for climate change.	Medium	Medium	Long-term	Temporary	Medium (beneficial)	Medium	Drought actions are a key component of Anglian Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought conditions which may become more prevalent due to climate change, supporting climate adaptation goals by reducing vulnerability to supply stress.	None	Moderate beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Small	Low	Short-term	Temporary	Low (adverse)	Medium	There are numerous historic environment remains and features within the potential zone of influence. Key risk would be associated with a further short-term drawdown in river levels potentially affecting riverside designations (e.g. Scheduled Monuments) and buried archaeology, although this would be in the context of already low river flows due to prolonged low rainfall.	Minor adverse	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, landscape character and visual amenity.	N/A	N/A	N/A	N/A	N/A	N/A	No construction activities are required for this action. The action is not located in proximity to any designated landscapes. Under drought conditions, this action is unlikely to compound impacts on the surrounding landscape.	None	None

Drought Plan Action:	River Nene (Rutland) - Summer
Description	Proposed drought permit will take the form of a summer (May to November) authorisation to allow increased refilling of Rutland Water through a 50% reduction in the Minimum Residual Flow (MRF). It has been assumed that maximum abstractions (763Ml/d; 180,000Ml/yr) would remain unchanged from those currently licensed, therefore the assessment is based on a reduction in MRF from 150Ml/d to 75Ml/d.

SEA topics and objectives		Assessment of Drought Action									
Topic	Objective	Scale of effect: geographical &/or population affected (Small/Medium/Large)	Certainty of effect (Low/Medium/High)	Duration of effect (Short-term/Medium-term/Long-term)	Permanence of effect (Permanent/Temporary)	Magnitude of effect (Low/Medium/High)	Value/ sensitivity of receptor (Low/Medium/High)	Residual effect on sensitive receptors (assuming good practice construction methods) Commentary (construction and operation)		Residual adverse effect significance (likely to remain after reasonable mitigation)	Residual beneficial effect significance (likely to remain after reasonable mitigation)
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species), enhance ecosystem resilience and habitat connectivity.	Medium	Medium	Short-term	Temporary	High (adverse)	Medium	The proposed 50% reduction in MRF would temporarily reduce the ecological protective flow in the River Nene, allowing more water to be abstracted. The HRA Stage 2 Appropriate Assessment concluded that the drought permit could result in significant adverse effects on the qualifying features of the Nene Washes SPA, SAC and Ramsar site, and Rutland Water SPA and Ramsar site, due to deteriorations in water quality (particularly orthophosphate and dissolved oxygen). The EARs identified a number of designated sites/Local wildlife sites/NERC habitats that are impacted by the implementation of this drought permit. All sites are moderately impacted and include: Nene Washes SAC/SPA/Ramsar/SSSI, Rutland Water SPA/Ramsar, Castor Meadows SSSI, Woodston Ponds LNR, The Boardwalks LNR, 24 LWS and coastal and floodplain grazing marsh. The EAR identifies major impacts on a number of NERC and notable fish species including: Spined loach and European eel. Moderate impacts are identified for bullhead, <i>leptocerus lustranicus</i> , <i>oulimnius major</i> , <i>unio tumidus</i> , <i>iphaerium rivicola</i> , <i>libellula fulva</i> , <i>ceraclea senilis</i> . Major impact is identified for WFD status (fish) and moderate impact for WFD status (invertebrates, macrophytes, phytobenthos). Abstracted water would be used to refill the Rutland Reservoir SSSI, delivering ecological benefits for species and habitats present there.		Major adverse	None
Biodiversity, flora and fauna	1.2 To protect and enhance sustainable natural resources and the ecosystem services they provide and deliver a biodiversity net gain.	Medium	Medium	Short-term	Temporary	Low (adverse)	Medium	The implementation of the drought permit is expected to have minor impacts to flow hydraulics, and negligible impacts on sediment dynamics, connectivity, channel morphology, and habitat. Due to the low-energy environment, existing watercourse modifications, and effective management, changes to natural processes and habitats are minimal. This supports the environmental objective of protecting and enhancing sustainable natural resources and ecosystem services while maintaining biodiversity. As the permit does not involve any construction activities, there will be no physical habitat loss or disturbance, and therefore no opportunities for compensatory planting or habitat enhancement. The action is located outside a designated Nature Improvement Area. The Biodiversity Net Gain (BNG) policy does not apply to projects where no groundworks, site clearance, or construction footprint will occur, and where there is no physical intervention that could impact existing habitats.		Negligible adverse	None
Biodiversity, flora and fauna	1.3 To avoid introducing or spreading INNS.	Medium	Medium	Short-term	Temporary	Low (adverse)	Medium	The EAR identified three invasive species of concern across the impacted reaches: Water fern, Nuttall's waterweed, and demon shrimp. Water fern forms dense surface mats, reducing light penetration and depleting oxygen levels in the water column, often resulting in ecological degradation. Nuttall's waterweed forms dense underwater stands that reduce habitat quality and oxygen availability. Demon shrimp could result in marked ecological change, leading to decreased diversity in the invaded range by competing with or preying upon larval fish, fish eggs and invertebrates. Drought conditions and the implementation of a drought permit are expected to reduce downstream drift by lowering flows and connectivity, which may temporarily limit its spread.		Minor adverse	None
Biodiversity, flora and fauna	1.4 To meet WFD objectives relating to biodiversity.	Medium	Medium	Short-term	Temporary	Medium (adverse)	Medium	There will be a major hydrological impact from the drought action in both reaches resulting in physical environment changes (river flows, river habitat and water quality) which present significant risks to WFD receptors. Overall, moderate adverse effects are anticipated towards meeting WFD biodiversity objectives, as the EAR indicates that physical changes to WFD status receptors will result in mostly moderate impacts, with one major impact identified for fish.		Moderate adverse	None
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Large	Medium	Short-term	Temporary	High (beneficial)	Medium	This drought action will ensure a secure supply of water (up to 75 Ml/d), which is essential for community well-being and so, it could highlight the importance of the water environment as a critical resource for public health, recreation, and community resilience.		None	Major beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Medium	Short-term	Temporary	Medium (adverse)	Low	The proposed drought permit is expected to have limited impacts on recreational activities along the River Nene. In summer, higher usage means some restrictions to lockages may be needed to maintain upstream water levels, and reduced flows could increase risks of algal blooms and aquatic plant growth, potentially obstructing navigation and affecting aesthetics. Angling quality is unlikely to decline further under the permit beyond natural drought effects, though extreme drought could warrant restrictions for fish welfare. Cycling and walking are less affected, though visual impacts from algal blooms may reduce enjoyment. Overall, impacts are minor with previous drought permit experience (2011/12) showing no significant long-term effects on navigation or recreation.		Minor adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Large	Medium	Short-term	Temporary	High (beneficial)	Medium	The drought action supports the objective by maintaining secure water resources (up to 75 Ml/d), which are fundamental to both economic sustainability and community wellbeing, while ensuring continued access to essential services.		None	Major beneficial
Material assets and resource use	3.1 To minimise waste, promote resource efficiency and move towards a circular economy.	Medium	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Low	The drought action involves a reduction in MRF only and no changes to energy use, generated waste or sustainable designs are envisaged. The action will make use of existing infrastructure.		Negligible adverse	Negligible beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	Medium	High	Short-term	Temporary	Low (beneficial)	Medium	This drought action will enhance the efficiency of water resource management to support the maintenance of essential public water supplies during drought conditions. It will support drought resilience and reservoir levels.		None	Minor beneficial
Water	4.1 To maintain or improve the quality of surface and groundwater resources.	Medium	High	Short-term	Temporary	Medium (adverse)	Medium	During implementation of the drought permit, reduced river flows may occur, potentially reducing the dilution of pollutants and nutrients during low-flow conditions with risks of algal blooms, aquatic plant growth, and localised siltation, which could affect water quality and aesthetics. Orthophosphate shows a consistently major impact, while dissolved oxygen shows moderate impacts, and ammonia remains negligible throughout.		Moderate adverse	None
Water	4.2 To protect and enhance surface and groundwater levels and flows.	Medium	Medium to high	Short-term	Temporary	High (adverse)	Medium	The drought permit secures additional water supply by temporarily reducing the MRF. The hydrological impact is anticipated to be major.		Major adverse	None
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources, including contributing to the achievement of WFD compliance objectives.	Large	High	Short-term	Temporary	Medium (adverse) High (beneficial)	Medium	This drought action supports the sustainable management of water resources. There is no increase in pumping capacity, no new infrastructure, and no change to the maximum volume that can be taken. It will produce up to 75 Ml/d. Overall, WFD status risks are negligible for ammonia, moderate for dissolved oxygen, and major for orthophosphate. It is possible that the WFD status could deteriorate for the duration of the drought but would begin recovery as soon as non-drought conditions resumed. The potential impact on downstream abstractions in Reach 1 is classified as moderate, and in Reach 2, is classified as major.		Moderate adverse	Major beneficial
Water	4.4 To promote water efficiency and actions that enable sustainable water use.	Medium	Low	Short-term	Temporary	Low (beneficial)	Low	This drought action is unlikely to promote water efficiency or sustainable water use directly, though it supports supply security and may indirectly highlight the importance of efficiency measures. While the action does not improve efficiency directly, it is part of a broader drought response accompanied by publicity campaigns promoting efficient water use. By improving operational flexibility this action may indirectly support more sustainable water resource management.		None	Negligible beneficial
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and protect and enhance geodiversity and ensure appropriate and efficient use of land.	Small	Low	Short-term	Temporary	Low (adverse) Low (beneficial)	Medium	Grade 2 soil is found along parts of the reaches and grade 1 soil is found within 500m and 1km. These types of soils are typically used for high value crops, which may require irrigation. The scheme may temporarily limit irrigation water, lowering soil moisture and groundwater recharge. The EAR identified negligible impacts to geomorphology as a result of reduced flow altering the sediment transport capacity. The scheme would take place on previously developed land which supports efficient use of land.		Minor adverse	Minor beneficial
Air and Climate	6.1 To maintain and improve air quality.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	The drought action involves a reduction in river flow and is therefore unlikely to result in significant increases in atmospheric emissions. However, increased abstraction at higher rates during low-flow conditions may lead to a slight increase in electricity consumption for pumping.		Negligible adverse	None
Air and climate	6.2 To reduce greenhouse gas emissions.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	The drought action involves a reduction in river flow and is therefore unlikely to result in significant increases in greenhouse gas emissions. However, increased abstraction at higher rates during low-flow conditions may lead to a slight increase in electricity consumption for pumping.		Negligible adverse	None
Air and climate	6.3 To consider the need for adaptive actions for climate change.	Medium	Medium	Long-term	Temporary	High (beneficial)	Medium	Drought actions are a key component of Anglian Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought conditions which may become more prevalent due to climate change, supporting climate adaptation goals by reducing vulnerability to supply stress.		None	Major beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Small	Low	Short-term	Temporary	Low (adverse)	Low	None of the designated Historic England assets identified in the receptors assessment are water dependent. As water levels will already be naturally low in times of drought, any impacts to the receptors and associated landscape will be temporary in nature and will be ameliorated once the drought has passed.		Negligible adverse	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, landscape character and visual amenity.	N/A	N/A	N/A	N/A	N/A	N/A	No construction activities are required for this action. The action is not located in proximity to any designated landscapes. Under drought conditions, this action is unlikely to compound impacts on the surrounding landscape.		None	None

Drought Plan Action:	River Nene (Rutland) - Winter										
Description	Proposed drought permit will take the form of a winter (December to April) authorisation to allow increased refilling of Rutland Water through a 50% reduction in the Minimum Residual Flow (MRF). It has been assumed that maximum abstractions (763MI/d; 180,000MI/yr) would remain unchanged from those currently licensed, therefore the assessment is based on a reduction in MRF from 125MI/d to 62.5MI/d.										
SEA topics and objectives		Assessment of Drought Action									
Topic	Objective	Scale of effect: geographical &/or population affected (Small/Medium/Large)	Certainty of effect (Low/Medium/High)	Duration of effect (Short-term/Medium-term/Long-term)	Permanence of effect (Permanent/Temporary)	Magnitude of effect (Low/Medium/High)	Value/ sensitivity of receptor (Low/Medium/High)	Residual effect on sensitive receptors (assuming good practice construction methods) Commentary (construction and operation)		Residual adverse effect significance (likely to remain after reasonable mitigation)	Residual beneficial effect significance (likely to remain after reasonable mitigation)
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species), enhance ecosystem resilience and habitat connectivity.	Medium	Medium	Short-term	Temporary	High (adverse)	Medium	The proposed 50% reduction in MRF would temporarily reduce the ecological protective flow in the River Nene, allowing more water to be abstracted. The HRA Stage 2 Appropriate Assessment concluded that the drought permit could result in significant adverse effects on the qualifying features of the Nene Washes SPA, SAC and Ramsar site, and Rutland Water SPA and Ramsar site, due to deteriorations in water quality (particularly orthophosphate and dissolved oxygen). The EARs identified a number of designated sites/Local wildlife sites/NERC habitats that are impacted by the implementation of this drought permit. Sites which are moderately impacted include: Nene Washes SAC/SPA/Ramsar/SSSI, Castor Meadows SSSI, Woodston Ponds LNR, The Boardwalks LNR, 24 LWS and coastal and floodplain grazing marsh. Rutland Water SPA/Ramsar is anticipated to experience minor impacts. The EAR identifies major impacts on a number of NERC and notable fish species including: Spined loach and European eel. Moderate impacts are identified for bullhead, leptoceurus iustanicus, oulimnius major, unio tumidus, iphaerium rivicola, libellula fulva, ceraclea senilis. Major impact is identified for WFD status (fish) and moderate impact for WFD status (invertebrates, macrophytes, phytoenthos). Abstracted water would be used to refill the Rutland Reservoir SSSI, delivering ecological benefits for species and habitats present there.		Major adverse	None
Biodiversity, flora and fauna	1.2 To protect and enhance sustainable natural resources and the ecosystem services they provide and deliver a biodiversity net gain.	Medium	Medium	Short-term	Temporary	Low (adverse)	Medium	The implementation of the drought permit is expected to have minor impacts on sediment dynamics and flow hydraulics, and negligible impacts to connectivity, channel morphology, and habitat. Due to the low-energy environment, existing watercourse modifications, and effective management, changes to natural processes and habitats are minimal. This supports the environmental objective of protecting and enhancing sustainable natural resources and ecosystem services while maintaining biodiversity. As the permit does not involve any construction activities, there will be no physical habitat loss or disturbance, and therefore no opportunities for compensatory planting or habitat enhancement. The action is located outside a designated Nature Improvement Area. The Biodiversity Net Gain (BNG) policy does not apply to projects where no groundworks, site clearance, or construction footprint will occur, and where there is no physical intervention that could impact existing habitats.		Negligible adverse	None
Biodiversity, flora and fauna	1.3 To avoid introducing or spreading INNS.	Medium	Medium	Short-term	Temporary	Low (adverse)	Medium	The EAR identified three invasive species of concern across the impacted reaches: Water fern, Nuttall's waterweed, and demon shrimp. Water fern forms dense surface mats, reducing light penetration and depleting oxygen levels in the water column, often resulting in ecological degradation. Nuttall's waterweed forms dense underwater stands that reduce habitat quality and oxygen availability. Demon shrimp could result in marked ecological change, leading to decreased diversity in the invaded range by competing with or preying upon larval fish, fish eggs and invertebrates. Drought conditions and the implementation of a drought permit are expected to reduce downstream drift by lowering flows and connectivity, which may temporarily limit its spread.		Minor adverse	None
Biodiversity, flora and fauna	1.4 To meet WFD objectives relating to biodiversity.	Medium	Medium	Short-term	Temporary	Medium (adverse)	Medium	There will be a major hydrological impact from the drought action in both reaches resulting in physical environment changes (river flows, river habitat and water quality) which present significant risks to WFD receptors. Overall, moderate adverse effects are anticipated towards meeting WFD biodiversity objectives, as the EAR indicates that physical changes to WFD status receptors will result in mostly moderate impacts, with one major impact identified for fish.		Moderate adverse	None
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Large	Medium	Short-term	Temporary	High (beneficial)	Medium	This drought action will ensure a secure supply of water (up to 62.5 MI/d), which is essential for community well-being and so, it could highlight the importance of the water environment as a critical resource for public health, recreation, and community resilience.		None	Major beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	The proposed drought permit is expected to have limited impacts on recreational activities along the River Nene. In winter, when boating and angling activity is lower, impacts on navigation and recreation are minimal. Angling quality is unlikely to decline further under the permit beyond natural drought effects, though extreme drought could warrant restrictions for fish welfare. Cycling and walking are less affected, though visual impacts from algal blooms may reduce enjoyment. Overall, impacts are negligible with previous drought permit experience (2011/12) showing no significant long-term effects on navigation or recreation.		Negligible adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Large	Medium	Short-term	Temporary	High (beneficial)	Medium	The drought action supports the objective by maintaining secure water resources (up to 62.5 MI/d), which are fundamental to both economic sustainability and community wellbeing, while ensuring continued access to essential services.		None	Major beneficial
Material assets and resource use	3.1 To minimise waste, promote resource efficiency and move towards a circular economy.	Medium	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Low	The drought action involves a reduction in MRF only and no changes to energy use, generated waste or sustainable designs are envisaged. The action will make use of existing infrastructure.		Negligible adverse	Negligible beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	Medium	High	Short-term	Temporary	Low (beneficial)	Medium	This drought action will enhance the efficiency of water resource management to support the maintenance of essential public water supplies during drought conditions. It will support drought resilience and reservoir levels.		None	Minor beneficial
Water	4.1 To maintain or improve the quality of surface and groundwater resources.	Medium	High	Short-term	Temporary	Medium (adverse)	Medium	During implementation of the drought permit, reduced river flows may occur, potentially reducing the dilution of pollutants and nutrients during low-flow conditions with risks of algal blooms, aquatic plant growth, and localised siltation, which could affect water quality and aesthetics. Orthophosphate shows a consistently major impact, while dissolved oxygen shows minor impacts, and ammonia remains negligible throughout.		Moderate adverse	None
Water	4.2 To protect and enhance surface and groundwater levels and flows.	Medium	Medium to high	Short-term	Temporary	High (adverse)	Medium	The drought permit secures additional water supply by temporarily reducing the MRF. The hydrological impact is anticipated to be major.		Major adverse	None
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources, including contributing to the achievement of WFD compliance objectives.	Large	High	Short-term	Temporary	Medium (adverse) High (beneficial)	Medium	This drought action supports the sustainable management of water resources. There is no increase in pumping capacity, no new infrastructure, and no change to the maximum volume that can be taken. It will produce up to 62.5 MI/d. Overall, WFD status risks are negligible for ammonia, minor for dissolved oxygen, and major for orthophosphate. It is possible that the WFD status could deteriorate for the duration of the drought but would begin recovery as soon as non-drought conditions resumed. The potential impact on downstream abstractors in Reach 1 is classified as minor, and in Reach 2, is classified as moderate.		Moderate adverse	Major beneficial
Water	4.4 To promote water efficiency and actions that enable sustainable water use.	Medium	Low	Short-term	Temporary	Low (beneficial)	Low	This drought action is unlikely to promote water efficiency or sustainable water use directly, though it supports supply security and may indirectly highlight the importance of efficiency measures. While the action does not improve efficiency directly, it is part of a broader drought response accompanied by publicity campaigns promoting efficient water use. By improving operational flexibility this action may indirectly support more sustainable water resource management.		None	Negligible beneficial
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and protect and enhance geodiversity and ensure appropriate and efficient use of land.	Small	Low	Short-term	Temporary	Low (adverse) Low (beneficial)	Medium	Grade 2 soil is found along parts of the reaches and grade 1 soil is found within 500m and 1km. These types of soils are typically used for high value crops, which may require irrigation. The scheme may temporarily limit irrigation water, lowering soil moisture and groundwater recharge. The EAR identified minor impacts to geomorphology as a result of reduced flow altering the sediment transport capacity. The scheme would take place on previously developed land which supports efficient use of land.		Minor adverse	Minor beneficial
Air and Climate	6.1 To maintain and improve air quality.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	The drought action involves a reduction in river flow and is therefore unlikely to result in significant increases in atmospheric emissions. However, increased abstraction at higher rates during low-flow conditions may lead to a slight increase in electricity consumption for pumping.		Negligible adverse	None
Air and climate	6.2 To reduce greenhouse gas emissions.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	The drought action involves a reduction in river flow and is therefore unlikely to result in significant increases in greenhouse gas emissions. However, increased abstraction at higher rates during low-flow conditions may lead to a slight increase in electricity consumption for pumping.		Negligible adverse	None
Air and climate	6.3 To consider the need for adaptive actions for climate change.	Medium	Medium	Long-term	Temporary	High (beneficial)	Medium	Drought actions are a key component of Anglian Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought conditions which may become more prevalent due to climate change, supporting climate adaptation goals by reducing vulnerability to supply stress.		None	Major beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Small	Low	Short-term	Temporary	Low (adverse)	Low	None of the designated Historic England assets identified in the receptors assessment are water dependent. As water levels will already be naturally low in times of drought, any impacts to the receptors and associated landscape will be temporary in nature and will be ameliorated once the drought has passed.		Negligible adverse	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, landscape character and visual amenity.	N/A	N/A	N/A	N/A	N/A	N/A	No construction activities are required for this action. The action is not located in proximity to any designated landscapes. Under drought conditions, this action is unlikely to compound impacts on the surrounding landscape.		None	None

Drought Plan Action:	River Gt Ouse (Grafham Water) - Summer
Description:	Temporary summer drought permit allowing a reduction of the Minimum Residual Flow (MRF) at Offord to increase opportunities for abstraction while remaining fully within existing licence limits. stage 1 – Existing MRF, abstraction at up to 100% of the flow in excess of the MRF stage 2 – 50% reduction in the MRF to 68 Ml/d, abstraction at up to 75% of the flow in excess of the MRF Under the most likely scenario a winter drought permit would be applied for to enable Grafham Water to refill following a prolonged dry period. stage 2 allows greater abstraction at lower flows so would likely be used in later stages of the drought. Usage would be expected to revert to stage 1 when sufficient reservoir recovery has occurred. It has been assumed that daily and annual totals would remain unchanged from those currently licenced.

SEA topics and objectives		Assessment of Drought Action										Residual adverse effect significance (likely to remain after reasonable mitigation)	Residual beneficial effect significance (likely to remain after reasonable mitigation)
Topic	Objective	Scale of effect: geographical &/or population affected (Small/Medium/Large)	Certainty of effect (Low/Medium/High)	Duration of effect (Short-term/Medium-term/Long-term)	Permanence of effect (Permanent/Temporary)	Magnitude of effect (Low/Medium/High)	Value/ sensitivity of receptor (Low/Medium/High)	Residual effect on sensitive receptors (assuming good practice construction methods) Commentary (construction and operation)					
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species), enhance ecosystem resilience and habitat connectivity.	Medium	Medium	Short-term	Temporary	Medium (adverse) Low (beneficial)	Medium	Portlaine SAC/SSSI, Ouse Washes SAC/SPA/SSSI/Ramsar, and 14 other SSSIs are located within 5 km of the drought permit area. Of these designated sites, the Ouse Washes SAC/SPA/SSSI is predicted to experience adverse impacts - minor under stage 1 and moderate under stage 2. The HRA screening of Ouse Washes found that changes may affect wetland plant communities, invertebrate assemblages, supporting habitat for waterbirds, and habitat quality for spined loach. Reduced flows during drought conditions can impact aquatic habitats by exposing channel margins and bed features, resulting in a reduction of available wetted habitat. This can increase stress and competition among species, heighten the risk of predation, and lead to the siltation of spawning gravels. The EAR identifies moderate adverse hydrological and water quality impacts under stage 1, with the following impacts on NERC Act Section 41 and other protected species: • Moderate impacts on Spined Loach, Bullhead, Brook Lamprey, European Eel, and a minor impact on European Water Vole. • Moderate impacts on WFD status receptors, Macrophytes, Phytobenthos, Macroinvertebrates and Fish. • Minor to moderate adverse impacts on 26 Local Wildlife Sites, the Ouse Washes SAC/SPA/SSSI/Ramsar, and NERC habitats such as coastal and floodplain grazing marsh. Under stage 2, major adverse hydrological and water quality impacts were identified with the following impacts: • Moderate adverse impacts on Spined Loach, Bullhead, Brook Lamprey, European Eel, and a minor impact on European Water Vole. • Moderate adverse impacts on all WFD status receptors, including Macrophytes, Phytobenthos, Macroinvertebrates, and Fish. • Moderate adverse impacts on 26 Local Wildlife Sites, the Ouse Washes SAC/SPA/SSSI/Ramsar, and NERC habitats such as coastal and floodplain grazing marsh. While the MRF would be maintained in stage 1, this provides no additional ecological benefit beyond retaining the existing protection for flow-dependent habitats. However, Grafham Reservoir, a designated SSSI, would receive the abstracted water, delivering ecological benefits for species and habitats present there.		Moderate adverse	Minor beneficial		
Biodiversity, flora and fauna	1.2 To protect and enhance sustainable natural resources and the ecosystem services they provide and deliver a biodiversity net gain.	Medium	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Medium	stage 1 summer impacts are expected to be minor to negligible. Reduced flows may cause minor changes to sediment deposition and small reductions in water levels and velocities, but overall effects are limited. Connectivity, channel morphology and habitat conditions are all assessed as negligible, with no meaningful changes anticipated due to the already modified watercourse and low-energy summer conditions. stage 2 summer impacts are expected to be mostly minor to moderate. Reduced flows may cause minor changes to sediment deposition and moderate reductions in water levels and velocities across the reach. Connectivity and channel morphology remain negligibly affected due to the already modified nature of the watercourse. Habitat impacts are assessed as minor, with some increased marginal exposure and effects on habitat maintenance expected under major flow reductions. As the permit does not involve any construction activities, there will be no physical habitat loss or disturbance, and therefore no opportunities for compensatory planting or habitat enhancement. The action is located outside a designated Nature Improvement Area. The Biodiversity Net Gain (BNG) policy does not apply to projects where no groundworks, site clearance, or construction footprint will occur, and where there is no physical intervention that could impact existing habitats. While the MRF would be maintained in stage 1, this provides no additional ecological benefit beyond retaining the existing protection for flow-dependent habitats. However, Grafham Reservoir, a designated SSSI, would receive the abstracted water, delivering ecological benefits for species and habitats present there.		Minor adverse	Minor beneficial		
Biodiversity, flora and fauna	1.3 To avoid introducing or spreading INNS.	Small	Medium	Short-term	Temporary	Low (beneficial)	Low	The invasive amphipod D. haemobaphes poses a low-magnitude, minor-significance impact, with medium confidence. It may increase predation and competition on native invertebrates, but its spread is mainly via downstream drift, with little likelihood of additional overland dispersal during drought conditions. Drought conditions and the implementation of a drought permit are expected to reduce downstream drift by lowering flows and connectivity, which may temporarily limit its spread.		None	Negligible beneficial		
Biodiversity, flora and fauna	1.4 To meet WFD objectives relating to biodiversity.	Medium	Medium	Short-term	Temporary	Medium (adverse)	Medium	At stage 1 there will be a moderate hydrological impact from the drought action in both reaches in Summer and at stage 2 there will be a moderate hydrological impact from the drought action in both reaches resulting in physical environment changes (river flows, river habitat and water quality) which present risks to WFD receptors.		Moderate adverse	None		
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Large	Medium	Short-term	Temporary	High (beneficial)	Medium	This drought action will ensure a secure supply of water (up to 68 Ml/d), which is essential for community well-being and so, it could highlight the importance of the water environment as a critical resource for public health, recreation, and community resilience.		None	Major beneficial		
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Medium	Short-term	Temporary	Medium (adverse)	Low	Due to the drought permit action, lower summer flows reduce the EA's ability to maintain navigable water levels, resulting in medium short-term impacts under both stage 1 and stage 2. Restricted lock operations, increased algal blooms and reduced draught may limit boat movements and affect moored vessels. For users of the Ouse Valley Way, the only potential effect is temporary visual change if water levels drop, but this would be short-lived and would return to normal once the drought period ends.		Minor adverse	None		
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Large	Medium	Short-term	Temporary	High (beneficial)	Medium	The drought action supports the objective by maintaining secure water resources (up to 68 Ml/d), which are fundamental to both economic sustainability and community wellbeing, while ensuring continued access to essential services.		None	Major beneficial		
Material assets and resource use	3.1 To minimise waste, promote resource efficiency and move towards a circular economy.	Medium	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Low	stage 1 allows abstraction of up to 100% of flow above the existing Minimum Residual Flow (MRF), while stage 2 reduces the MRF by 50% and permits abstraction of up to 75% of flow above this reduced threshold. Both stages operate within existing infrastructure and avoid unnecessary resource use or waste. This approach promotes resource efficiency by maximising available water within current capacity, reducing the need for additional construction or materials, and supporting operational resilience without generating significant waste. However, a slight increase in energy use for pumping during extended abstraction is anticipated.		Negligible adverse	Negligible beneficial		
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	Medium	High	Short-term	Temporary	Low (beneficial)	Medium	This drought action will enhance the efficiency of water resource management to support the maintenance of essential public water supplies during drought conditions. It will support drought resilience and reservoir levels.		None	Minor beneficial		
Water	4.1 To maintain or improve the quality of surface and groundwater resources.	Medium	High	Short-term	Temporary	Medium (adverse)	Medium	During implementation of the drought permit, reduced summer river flows may occur under both stage 1 and stage 2, potentially reducing the dilution of pollutants and nutrients during low-flow conditions with minor impacts on ammonia and dissolved oxygen in both reaches, but moderate to major deterioration in orthophosphate, particularly under stage 2, where low flows strongly elevate concentrations. These effects reflect existing poor phosphorus status and its clear flow-dependence.		Moderate adverse	None		
Water	4.2 To protect and enhance surface and groundwater levels and flows.	Medium	Medium to high	Short-term	Temporary	High (adverse)	Medium	This drought action is unlikely to protect or enhance surface and groundwater levels and flows. The permit secures additional water supply by increasing abstraction of flows above MRF in stage 1, and by temporarily reducing the MRF in stage 2. The hydrological impact is anticipated to be major at stage 2 implementation where the MRF is reduced.		Major adverse	None		
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources, including contributing to the achievement of WFD compliance objectives.	Large	Medium	Short-term	Temporary	High (adverse) High (beneficial)	Medium	The reduced MRF would still stay above the EA's recommended 500 L/s (43 Ml/d) residual flow at Offord to protect fish at Delph. While it may enable abstraction on more days, it does not increase pumping capacity, infrastructure, or the maximum authorised volume. Overall, the action provides temporary operational flexibility and could provide up to 68 Ml/d. Overall, WFD status risks in summer are minor for ammonia, negligible to minor for dissolved oxygen depending on stage, and major for orthophosphate, reflecting its strong sensitivity to low-flow conditions. Any deterioration would be temporary and recovery would be expected once normal (non-drought) flows return.		Major adverse	Major beneficial		
Water	4.4 To promote water efficiency and actions that enable sustainable water use.	Medium	Low	Short-term	Temporary	Low (beneficial)	Low	This drought action is unlikely to promote water efficiency or sustainable water use directly, though it supports supply security and may indirectly highlight the importance of efficiency measures. While the action does not improve efficiency directly, it is part of a broader drought response accompanied by public campaigns promoting efficient water use. By improving operational flexibility and maximising the use of existing licensed abstraction, this action may indirectly support more sustainable water resource management.		None	Negligible beneficial		
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and protect and enhance geodiversity and ensure appropriate and efficient use of land.	Small	Medium	Short-term	Temporary	Medium (adverse) Low (beneficial)	Medium	Grade 1 soil is found within 500m of reach 2 for the entirety of the reach. These types of soils are typically used for high value crops, which may require irrigation. The scheme may temporarily limit irrigation water, lowering soil moisture and groundwater recharge. The EAR identified minor to moderate impacts to geomorphology as a result of reduced flow altering the sediment transport capacity. The scheme would take place on previously developed land which supports efficient use of land.		Moderate adverse	Minor beneficial		
Air and Climate	6.1 To maintain and improve air quality.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	The drought action involves a reduction in river flow and is therefore unlikely to result in significant increases in atmospheric emissions. However, increased abstraction at higher rates during low-flow conditions may lead to a slight increase in electricity consumption for pumping.		Negligible adverse	None		
Air and climate	6.2 To reduce greenhouse gas emissions.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	The drought action involves a reduction in river flow and is therefore unlikely to result in significant increases in greenhouse gas emissions. However, increased abstraction at higher rates during low-flow conditions may lead to a slight increase in electricity consumption for pumping.		Negligible adverse	None		
Air and climate	6.3 To consider the need for adaptive actions for climate change.	Medium	Medium	Long-term	Temporary	High (beneficial)	Medium	Drought actions are a key component of Anglian Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought conditions which may become more prevalent due to climate change, supporting climate adaptation goals by reducing vulnerability to supply stress.		None	Major beneficial		
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Small	Low	Short-term	Temporary	Low (adverse)	Medium	There are numerous historic environment remains and features within the potential zone of influence. Key risk would be associated with a further short-term drawdown in river levels potentially affecting riverside designations (e.g. Scheduled Monuments) and buried archaeology, although this would be in the context of already low river flows due to prolonged low rainfall.		Minor adverse	None		
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, landscape character and visual amenity.	N/A	N/A	N/A	N/A	N/A	N/A	No construction activities are required for this action. The action is not located in proximity to any designated landscapes. Under drought conditions, this action is unlikely to compound impacts on the surrounding landscape.		None	None		

Drought Plan Action:	River Gt Ouse (Grafham Water) - Winter
Description:	Temporary winter drought permit allowing a reduction of the Minimum Residual Flow (MRF) at Offord to increase opportunities for abstraction. stage 1 – Existing MRF, abstraction at up to 100% of the flow in excess of the MRF stage 2 – 50% reduction in the MRF to 68 Ml/d, abstraction at up to 75% of the flow in excess of the MRF Under the most likely scenario a winter drought permit would be applied for to enable Grafham Water to refill following a prolonged dry period. stage 2 allows greater abstraction at lower flows so would likely be used in later stages of the drought. Usage would be expected to revert to stage 1 when sufficient reservoir recovery has occurred. It has been assumed that daily and annual totals would remain unchanged from those currently licenced.

SEA topics and objectives		Assessment of Drought Action								Residual adverse effect significance (likely to remain after reasonable mitigation)	Residual beneficial effect significance (likely to remain after reasonable mitigation)
Topic	Objective	Scale of effect: geographical &/or population affected (Small/Medium/Large)	Certainty of effect (Low/Medium/High)	Duration of effect (Short-term/Medium-term/Long-term)	Permanence of effect (Permanent/Temporary)	Magnitude of effect (Low/Medium/High)	Value/ sensitivity of receptor (Low/Medium/High)	Residual effect on sensitive receptors (assuming good practice construction methods) Commentary (construction and operation)			
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species), enhance ecosystem resilience and habitat connectivity.	Medium	Medium	Short-term	Temporary	Medium (adverse) Low (beneficial)	Medium	Portholme SAC/SSSI, Ouse Washes SAC/SPA/SSSI/Ramsar, and 14 other SSSIs are located within 5 km of the drought permit area. Of these designated sites, the Ouse Washes SAC/SPA/SSSI is predicted to experience adverse impacts - minor under stage 1 and under stage 2. The HRA screening of Ouse Washes found that changes may affect wetland plant communities, invertebrate assemblages, supporting habitat for waterbirds, and habitat quality for spined loach. Reduced flows during drought can expose channel margins and bed features, resulting in a reduction of available wetted habitat. This can increase stress and competition among species, heighten the risk of predation, and lead to the siltation of spawning gravels. The EAR identifies minor adverse hydrological and water quality impacts under stage 1, with the following impacts on NERC Act Section 41 and other protected species: • Minor impacts on Spined Loach, Bullhead, Brook Lamprey, European Eel, and European Water Vole. • Minor impacts on WFD status receptors, Macrophytes, Phytobenthos, Macroinvertebrates and Fish. • Minor adverse impacts on 26 Local Wildlife Sites, the Ouse Washes SAC/SPA/SSSI/Ramsar, and NERC habitats such as coastal and floodplain grazing marsh. Under stage 2, minor adverse hydrological and water quality impacts were identified with the following impacts: • Moderate adverse impacts on Spined Loach, Bullhead, Brook Lamprey, European Eel, and a minor impact on European Water Vole. • Minor adverse impacts on all WFD status receptors, including Macrophytes, Diatoms and Macroinvertebrates, and a moderate impact on Fish. • Minor adverse impacts on 26 Local Wildlife Sites, the Ouse Washes SAC/SPA/SSSI/Ramsar, and NERC habitats such as coastal and floodplain grazing marsh. While the MRF would be maintained in stage 1, this provides no additional ecological benefit beyond retaining the existing protection for flow-dependent habitats. However, Grafham Reservoir, a designated SSSI, would receive the abstracted water, delivering ecological benefits for species and habitats present there.	Moderate adverse	Minor beneficial	
Biodiversity, flora and fauna	1.2 To protect and enhance sustainable natural resources and the ecosystem services they provide and deliver a biodiversity net gain.	Medium	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Medium	Stage 1, winter impacts are very limited. Reduced flows may cause minor changes to sediment dynamics and small reductions in water levels and velocities, but overall effects remain low because winter flows are naturally higher. Connectivity and channel morphology are unaffected, and any habitat impacts are negligible, localised, and not expected to alter habitat condition or maintenance. Stage 2 shows a very similar pattern, with minor sediment and hydraulic impacts despite reduced flows, as elevated winter flows continue to buffer the system. Connectivity and channel morphology remain unaffected, and habitat impacts are negligible, with only small, localised changes anticipated. Overall, winter impacts under stage 2 remain low in magnitude and not ecologically significant. As the permit does not involve any construction activities, there will be no physical habitat loss or disturbance, and therefore no opportunities for compensatory planting or habitat enhancement. The action is located outside a designated Nature Improvement Area. The Biodiversity Net Gain (BNG) policy does not apply to projects where no groundworks, site clearance, or construction footprint will occur, and where there is no physical intervention that could impact existing habitats. While the MRF would be maintained in stage 1, there would be no additional ecological benefit but does retain the existing protection of flow-dependent habitats. However, Grafham Reservoir, a designated SSSI, would receive the abstracted water, delivering ecological benefits for species and habitats present there.	Minor adverse	Minor beneficial	
Biodiversity, flora and fauna	1.3 To avoid introducing or spreading INNS.	Small	Medium	Short-term	Temporary	Low (beneficial)	Low	The invasive amphipod D. haemobaphes poses a low-magnitude, minor-significance impact, with medium confidence. It may increase predation and competition on native invertebrates, but its spread is mainly via downstream drift, with little likelihood of additional overland dispersal during drought conditions. Drought conditions and the implementation of a drought permit are expected to reduce downstream drift by lowering flows and connectivity, which may temporarily limit its spread.	None	Negligible beneficial	
Biodiversity, flora and fauna	1.4 To meet WFD objectives relating to biodiversity.	Medium	Medium	Short-term	Temporary	Low (adverse)	Medium	At stage 1 there will be a minor hydrological impact from the drought action in both reaches in Winter and at stage 2 there will be a moderate hydrological impact from the drought action in reach 1 and minor impact in reach 2, resulting in physical environment changes (river flows, river habitat and water quality) which present risks to WFD receptors.	Minor adverse	None	
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Large	Medium	Short-term	Temporary	High (beneficial)	Medium	This drought action will ensure a secure supply of water (up to 68 Ml/d), which is essential for community well-being and so, it could highlight the importance of the water environment as a critical resource for public health, recreation, and community resilience.	None	Major beneficial	
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	In winter, the drought permit is expected to have minimal effects on recreation. Angling quality is unlikely to change because winter flows remain relatively high and any additional flow reductions would not noticeably affect fishing conditions. Navigation on the Great Ouse may face moderate impacts under stage 2, where lower flows could affect water levels and lock operations. For users of the Ouse Valley Way, the only potential effect is temporary visual change if water levels drop slightly, but this would be short-lived and would return to normal once the drought period ends.	Negligible adverse	None	
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Large	Medium	Short-term	Temporary	High (beneficial)	Medium	The drought action supports the objective by maintaining secure water resources (up to 68 Ml/d), which are fundamental to both economic sustainability and community wellbeing, while ensuring continued access to essential services.	None	Major beneficial	
Material assets and resource use	3.1 To minimise waste, promote resource efficiency and move towards a circular economy.	Medium	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Low	stage 1 allows abstraction of up to 100% of flow above the existing Minimum Residual Flow (MRF), while stage 2 reduces the MRF by 50% and permits abstraction of up to 75% of flow above this reduced threshold. Both stages operate within existing infrastructure and avoid unnecessary resource use or waste. This approach promotes resource efficiency by maximising available water within current capacity, reducing the need for additional construction or materials, and supporting operational resilience without generating significant waste. However, a slight increase in energy use for pumping during extended abstraction is anticipated.	Negligible adverse	Negligible beneficial	
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	Medium	High	Short-term	Temporary	Low (beneficial)	Medium	This drought action will enhance the efficiency of water resource management to support the maintenance of essential public water supplies during drought conditions. It will support drought resilience and reservoir levels.	None	Minor beneficial	
Water	4.1 To maintain or improve the quality of surface and groundwater resources.	Medium	High	Short-term	Temporary	Low (adverse)	Medium	This drought action is unlikely to maintain or improve the quality of surface and groundwater resources. In winter, ammonia and dissolved oxygen present a low risk of deterioration under drought permit implementation across both reaches, with all sites maintaining High or Good WFD status and showing minimal sensitivity to flow changes. Orthophosphate is the primary concern, as concentrations are already above Good status and display some sensitivity to low flows. Under stage 1 winter conditions, the risk to orthophosphate is minor, while stage 2 winter conditions pose a moderate risk of further deterioration.	Minor adverse	None	
Water	4.2 To protect and enhance surface and groundwater levels and flows.	Medium	Medium to high	Short-term	Temporary	Medium (adverse)	Medium	This drought action is unlikely to protect or enhance surface and groundwater levels and flows. The permit secures additional water supply by increasing abstraction of flows above MRF in stage 1, and by temporarily reducing the MRF in stage 2. The hydrological impact is anticipated to be minor to moderate.	Moderate adverse	None	
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources, including contributing to the achievement of WFD compliance objectives.	Large	Medium	Short-term	Temporary	Low (adverse) High (beneficial)	Medium	The reduced MRF would still stay above the EA's recommended 500 L/s (43 Ml/d) residual flow at Offord to protect fish at Delph. While it may enable abstraction on more days, it does not increase pumping capacity, infrastructure, or the maximum authorised volume. Overall, this action provides temporary operational flexibility and could save up to 68 Ml/d. Overall, WFD status risks in Winter are minor for ammonia, negligible for dissolved oxygen, and minor to moderate for orthophosphate, reflecting its strong sensitivity to low-flow conditions. Any deterioration would be temporary and recovery would be expected once normal (non-drought) flows return.	Minor adverse	Major beneficial	
Water	4.4 To promote water efficiency and actions that enable sustainable water use.	Medium	Low	Short-term	Temporary	Low (beneficial)	Low	This drought action is unlikely to promote water efficiency or sustainable water use directly, though it supports supply security and may indirectly highlight the importance of efficiency measures. While the action does not improve efficiency directly, it is part of a broader drought response accompanied by public campaigns promoting efficient water use. By improving operational flexibility this action may indirectly support more sustainable water resource management.	None	Negligible beneficial	
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and protect and enhance geodiversity and ensure appropriate and efficient use of land.	Small	Medium	Short-term	Temporary	Medium (adverse) Low (beneficial)	Medium	Grade 1 soil is found within 500m of reach 2 for the entirety of the reach. These types of soils are typically used for high value crops, which may require irrigation. The scheme may temporarily limit irrigation water, lowering soil moisture and groundwater recharge. The EAR identified minor to moderate impacts to geomorphology as a result of reduced flow altering the sediment transport capacity. The scheme would take place on previously developed land which supports efficient use of land.	Moderate adverse	Minor beneficial	
Air and Climate	6.1 To maintain and improve air quality.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	The drought action involves a reduction in river flow and is therefore unlikely to result in significant increases in atmospheric emissions. However, increased abstraction at higher rates during low-flow conditions may lead to a slight increase in electricity consumption for pumping.	Negligible adverse	None	
Air and climate	6.2 To reduce greenhouse gas emissions.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	The drought action involves a reduction in river flow and is therefore unlikely to result in significant increases in greenhouse gas emissions. However, increased abstraction at higher rates during low-flow conditions may lead to a slight increase in electricity consumption for pumping.	Negligible adverse	None	
Air and climate	6.3 To consider the need for adaptive actions for climate change.	Medium	Medium	Long-term	Temporary	High (beneficial)	Medium	Drought actions are a key component of Anglian Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought conditions which may become more prevalent due to climate change, supporting climate adaptation goals by reducing vulnerability to supply stress.	None	Major beneficial	
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Small	Low	Short-term	Temporary	Low (adverse)	Medium	There are numerous historic environment remains and features within the potential zone of influence. Key risk would be associated with a further short-term drawdown in river levels potentially affecting riverside designations (e.g. Scheduled Monuments) and buried archaeology, although this would be in the context of already low river flows due to prolonged low rainfall.	Minor adverse	None	
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, landscape character and visual amenity.	N/A	N/A	N/A	N/A	N/A	N/A	No construction activities are required for this action. The action is not located in proximity to any designated landscapes. Under drought conditions, this action is unlikely to compound impacts on the surrounding landscape.	None	None	

Drought Plan Action Name:	Lower Colne (Ardleigh Reservoir)
Description:	In summary the drought permit is two fold aimed at: Increasing licensed abstraction at Balkeerne by 3MI/d (6MI/d to 9MI/d), only to provide additional augmentation to the River Colne. Keeping the daily licence rates for Aldham and Cooks Mill stay the same but allowing a longer sustained period of higher abstraction (i.e. for the transfer of water directly into the supply system at up to 6MI/d). The overall benefit for both parts of the permit working at the same time is 7 MI/d with 3MI/d from augmentation and ~4 MI/d from Aldham and Cooks Mill into supply.

SEA topics and objectives		Assessment of Drought Action								Residual adverse effect significance (likely to remain after reasonable mitigation)	Residual beneficial effect significance (likely to remain after reasonable mitigation)
Topic	Objective	Scale of effect: geographical &/or population affected (Small/Medium/Large)	Certainty of effect (Low/Medium/High)	Duration of effect (Short-term/Medium-term/Long-term)	Permanence of effect (Permanent/ Temporary)	Magnitude of effect (Low/Medium/High)	Value/ sensitivity of receptor (Low/Medium/High)	Residual effect on sensitive receptors (assuming good practice construction methods) Commentary (construction and operation)			
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species), enhance ecosystem resilience and habitat connectivity.	Small	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Low	No construction works or infrastructure upgrades form part of this drought action. Increased abstraction may lower groundwater levels locally, potentially affecting hydrologically connected sites. The stage 1 HRA screening for Abberton Reservoir SPA/Ramsar site, Colne Estuary (Mid-Essex Coast Phase 2) SPA/Ramsar, and Essex Estuaries SAC identified that no adverse effects are anticipated from the drought permit alone or in-combination with other Plans or Projects with regards to these sits. Therefore, no statutory designated sites or NERC habitats have been identified as susceptible to impacts resulting from the implementation of this drought action. The EAR identified minor beneficial effects resulting from this drought action for bullhead, as minor increases in flow and wetted width could locally increase access to spawning gravels, refuge areas, and feeding habitats, however, increased stress and competition may lead to decreased growth, morphological change, and altered feeding behaviours. The EAR also identified minor beneficial effects for European eel as increased flows and wetted width may result in flushing and redistribution of sediments within important habitats (spawning gravels, nursery habitat, resting pools). However, increased stress and competition may result in decreased growth, morphological change and/or alteration to feeding and migration. No WFD features were considered susceptible to the drought permit impacts. Overall, while the drought permit is expected to provide some localised support to in-channel biodiversity during drought conditions, a precautionary assessment recognises that negligible adverse effects could occur due to minor alterations to natural flow processes.		Negligible adverse	Negligible beneficial
Biodiversity, flora and fauna	1.2 To protect and enhance sustainable natural resources and the ecosystem services they provide and deliver a biodiversity net gain.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	The EAR identified that this action is likely to have a negligible impact on groundwater dependant terrestrial ecosystems. No flow changes predicted in reach 1 or 3 during operation of this action. Reach 2 is anticipated to experience a minor impact on flow hydraulics and a negligible impact on habitats. Any effects would be short-term and temporary, and implementation of mitigation measures through the EMP would avoid or reduce any potential effects to negligible adverse. The Biodiversity Net Gain (BNG) policy does not apply to projects where no groundworks, site clearance, or construction footprint will occur, and where there is no physical intervention that could impact existing habitats.		Negligible adverse	None
Biodiversity, flora and fauna	1.3 To avoid introducing or spreading INNS.	Small	Low	Short-term	Temporary	Low (adverse) Low (beneficial)	Low	The EAR identified 3 species of aquatic plant INNS in the ZoI, including least duckweed, Canadian waterweed and Nutall's waterweed. Increased flows may reduce low-energy habitats that favour these species, thereby limiting their dominance and surface mat formation, and while they primarily spread via downstream drift of fragments, the higher flows may also improve habitat quality and oxygenation and thereby help reduce excessive macrophyte coverage. Appropriate biosecurity measures and an INNS risk assessment and management plan should be implemented. Overall, the increased flows are expected to have a beneficial effect by limiting INNS dominance, although a negligible risk of fragment dispersal downstream remains.		Negligible adverse	Negligible beneficial
Biodiversity, flora and fauna	1.4 To meet WFD objectives relating to biodiversity.	Medium	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Low	Across the assessed reaches, negligible to minor hydrological changes are anticipated as a result of the drought action, resulting in small-scale changes to river flows, habitat and water quality that pose limited risk to WFD biodiversity receptors. Overall, the assessment indicates largely negligible to minor adverse effects on WFD biodiversity objectives, with potential for beneficial outcomes due to improved flow and habitat conditions, and only negligible risk of adverse effects arising from minor alterations to natural flow processes.		Negligible adverse	Negligible beneficial
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Medium	High	Short-term	Temporary	Medium (beneficial)	Medium	This drought action would ensure a secure supply of water (up to 7 MI/d), which is essential for community well-being and may therefore highlight the importance of the water environment as a critical resource for public health, recreation, and community resilience.		None	Moderate beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Low	Impacts on recreation are unlikely to be significant due to the negligible to minor hydrological impact across all reaches. Angling and canoeing take place on parts of the reaches. Flows during drought conditions will already be low; therefore a negligible reduction in flows is unlikely to further reduce angling quality or affect water-based recreation on the reaches. There may also be negligible beneficial effects where increased flows marginally improve recreational conditions or general amenity value, although these are expected to be limited.		Negligible adverse	Negligible beneficial
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Medium	High	Short-term	Temporary	Medium (beneficial)	Medium	The drought action supports the objective by maintaining secure water resources (up to 7 MI/d), which are fundamental to both economic sustainability and community wellbeing, while ensuring continued access to essential services.		None	Moderate beneficial
Material assets and resource use	3.1 To minimise waste, promote resource efficiency and move towards a circular economy.	Small	High	Short-term	Temporary	Low (adverse) Low (beneficial)	Low	No construction impacts are associated with this option. The drought action involves increasing abstraction during drought periods; therefore, there may be minor changes to energy use. The action would make use of existing infrastructure.		Negligible adverse	Negligible beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	Medium	High	Short-term	Temporary	Low (beneficial)	Medium	This drought action would enhance the efficiency of water resource management to support the maintenance of essential public water supplies during drought conditions and would support drought resilience and reservoir levels.		None	Minor beneficial
Water	4.1 To maintain or improve the quality of surface and groundwater resources.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	The EAR identified negligible impacts for ammonia, dissolved oxygen and orthophosphate in reaches 1 and 3. In reach 2, no water quality data are available; therefore a detailed assessment could not be undertaken. However, given the minor hydrological impact anticipated in this reach, the EAR concluded that there is a low risk of impact. Overall, negligible adverse effects on water quality are anticipated.		Negligible adverse	None
Water	4.2 To protect and enhance surface and groundwater levels and flows.	Small	High	Medium-term to Long-term (adverse) Short-term (beneficial)	Temporary	Medium (adverse) Low (beneficial)	Medium	This drought action would support surface water flows through augmentation of the River Colne, however, groundwater modelling indicates that the increased abstraction would cause a substantial temporary drawdown in the confined chalk aquifer with a long recovery period, resulting in a moderate to major adverse effect on groundwater levels and aquifer functioning. Despite this, effects on groundwater-dependent terrestrial ecosystems and the wider groundwater balance are negligible due to the confining geology. Overall, the action is expected to result in minor beneficial effects on surface flows during drought, but moderate adverse effects on groundwater levels.		Moderate adverse	Minor beneficial
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources, including contributing to the achievement of WFD compliance objectives.	Small	Medium	Short-term	Temporary	Low (adverse) Medium (beneficial)	Low (adverse) Medium (beneficial)	This drought action supports the sustainable management of water resources. It would produce up to 7 MI/d. Overall, WFD status risks are negligible for ammonia, dissolved oxygen, and orthophosphate. Any deterioration would be temporary and recovery expected once normal flows resume.		Negligible adverse	Moderate beneficial
Water	4.4 To promote water efficiency and actions that enable sustainable water use.	Large	Medium	Short-term	Temporary	Low (beneficial)	Low	This drought permit does not directly promote water efficiency or sustainable water use, as it operates by increasing short-term groundwater abstraction to support river augmentation rather than reducing demand. However, it contributes to supply resilience during drought and forms part of a wider drought response that is accompanied by public efficiency campaigns. By relying on existing infrastructure and improving operational flexibility in low-flow periods, the permit indirectly supports more sustainable water resource management.		None	Negligible beneficial
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and protect and enhance geodiversity and ensure appropriate and efficient use of land.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Low	The drought action uses existing groundwater sources and infrastructure with no soil disturbance, land-take or impact on geodiversity. By relying entirely on existing assets, the action represents efficient land use and therefore results in a negligible beneficial effect.		None	Negligible beneficial
Air and Climate	6.1 To maintain and improve air quality.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	No construction activities are required for this action. Short-term increases in air emissions would occur due to increased abstraction. The use of existing infrastructure and treatment facilities would minimise any increases in emissions.		Negligible adverse	None
Air and climate	6.2 To reduce greenhouse gas emissions.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	No construction is required and minimal additional GHG emissions are associated with increased abstraction.		Negligible adverse	None
Air and climate	6.3 To consider the need for adaptive actions for climate change.	Medium	Medium	Long-term	Temporary	Medium (beneficial)	Medium	Drought actions form a key component of Anglian Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought conditions which are expected to become more frequent and severe as a result of climate change, supporting climate adaptation goals by reducing vulnerability to supply stress.		None	Moderate beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Small	Low	Short-term	Temporary	Low (adverse)	Low	None of the designated heritage assets identified within the receptors assessment have been identified as water-dependent. However, in reach 2, features such as Colchester Castle and the WWII Eastern Command Line defences at Chappel Viaduct are of regional and national importance. While not directly water-dependent, some visual or setting impacts may arise from summer flows in the Colne. As water levels would already be naturally low in times of drought, any impacts to the receptors and associated landscape would be temporary in nature and will return to baseline conditions once the drought has ended.		Negligible adverse	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, landscape character and visual amenity.	N/A	N/A	N/A	N/A	N/A	N/A	No construction activities are required for this action. The action is not located in proximity to any designated landscapes and no changes to the landscape are anticipated.		None	None

Drought Plan Action Name:	Wellington Wellfield (Stoke Ferry & Marham WTW)
Drought Plan Action Description:	The permit would allow an: Increase to the daily licenced abstraction of the Wellington Wellfield and Denton Lodge sources by a maximum of 2.726 Ml/d to 25 Ml/d output The maximum that each group of sources could be increased to make up the 25 Ml/d is: Wellington Wellfield - from 15 Ml/d to 17.726 Ml/d Denton Lodge - from 7.274 Ml/d to 10 Ml/d However, in reality the extra 2.726 Ml/d will likely come from a combination of the Wellington Wellfield and Denton Lodge sources. Anglian Water is permitted to abstract up to 10 Ml/d on an annual average basis. The drought permit would allow abstraction of up to 25 Ml/d outside the annual and group licence limits, providing an additional 15 Ml/d benefit.

SEA topics and objectives		Assessment of Drought Action									
Topic	Objective	Scale of effect: geographical &/or population affected (Small/Medium/Large)	Certainty of effect (Low/Medium/High)	Duration of effect (Short-term/Medium-term/Long-term)	Permanence of effect (Permanent/Temporary)	Magnitude of effect (Low/Medium/High)	Value/ sensitivity of receptor (Low/Medium/High)	Residual effect on sensitive receptors (assuming good practice construction methods) Commentary (construction and operation)	Residual adverse effect significance (likely to remain after reasonable mitigation)	Residual beneficial effect significance (likely to remain after reasonable mitigation)	
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species), enhance ecosystem resilience and habitat connectivity.	Medium	Medium	Short-term	Temporary	Medium (adverse)	Medium	No construction works or infrastructure upgrades form part of this drought option. Increased abstraction may lower groundwater levels locally, potentially affecting hydrologically connected sites. The EAR has identified numerous statutory designated sites that are susceptible to impacts resulting from the implementation of this drought action. Sites that are anticipated to experience major adverse impacts are The Brinks, Northwold SSSI, and Didlington Park Lakes SSSI. Moderate impact sites include Breckland SAC, Stanford Training Area SSSI, Weeting Heath SSSI and NNR, Wangford Warren and Carr SSSI, and Pashford Poor's Fen, Lakenheath SSSI. Minor impact sites include Norfolk Valley Fens SAC, Foulden Common SSSI, Stalode Wash, Lakenheath SSSI, and Lakenheath Warren SSSI. The HRA details that there are likely significant effects anticipated with regards to Breckland SAC and therefore the implementation of mitigation measures and monitoring is recommended. Several NERC habitats have been identified as sensitive to groundwater abstraction impacts associated with the Wellington Wellfield (Stoke Ferry & Marham) Drought Permit. These are reedbeds, purple moor grass and rush pastures, coastal and floodplain grazing marsh, and lowland fen and meadows. These are anticipated to experience minor adverse impacts. The EAR identified moderate impacts resulting from this drought action for amphibians such as the great crested newt and the common toad, due to possible reduction in available breeding habitat, or desiccation of eggs or larval stages. Moderate impacts are also anticipated on wetland birds such as the Eurasian bittern, common reed bunting, common grasshopper warbler, and Eurasian curlew, due to a loss/reduction of supporting habitat. For WFD receptors, macroinvertebrates and macrophytes are anticipated to experience minor impacts from this drought action albeit, with low confidence. Fish and phytobenthos are not anticipated to experience any significant impacts. Overall, moderate adverse effects are anticipated.	Moderate adverse	None	
Biodiversity, flora and fauna	1.2 To protect and enhance sustainable natural resources and the ecosystem services they provide and deliver a biodiversity net gain.	Medium	Medium	Short-term	Temporary	Low (adverse)	Medium	As the action does not involve any construction works, no physical habitat loss or disturbance is expected, and therefore no compensatory planting or habitat enhancement is applicable. The Biodiversity Net Gain (BNG) policy does not apply to projects where no groundworks, site clearance, or construction footprint will occur, and where there is no physical intervention that could impact existing habitats. The drought permit is expected to cause negligible to minor changes to river flows, resulting in negligible adverse ecological impacts to hydraulic conditions and habitat availability. The scheme may have negligible to minor effects on the hydrological cycle at a local scale, by influencing surface water flows, which may affect water-dependent features downstream. However, any effect would be short-term and temporary and implementation of mitigation measures through the EMP would avoid or reduce any potential effects to minor adverse.	Minor adverse	None	
Biodiversity, flora and fauna	1.3 To avoid introducing or spreading INNS.	Small	Low	Short-term	Temporary	Medium (adverse)	Low	Four invasive macrophyte and plant species were recorded within the Zone of Influence (ZoI): water fern, New Zealand pigmyweed, Nuttall's waterweed and least duckweed. Slower flows may lead to more ideal conditions for the establishment of identified INNS macrophytes, and impacts from groundwater drawdown can lead to changes in wetted areas of standing water, potentially facilitating colonisation by riparian INNS. Appropriate biosecurity measures and an INNS risk assessment and management plan should be implemented.	Minor adverse	None	
Biodiversity, flora and fauna	1.4 To meet WFD objectives relating to biodiversity.	Medium	Medium	Short-term	Temporary	Low (adverse)	Medium	Across the reaches, negligible to minor hydrological impacts are anticipated from the drought action resulting in physical environment changes (river flows, river habitat and water quality) which present risks to WFD receptors. Overall, minor adverse effects on WFD biodiversity objectives are anticipated, as the EAR indicates that physical changes to WFD status receptors will result in mostly negligible/minor impacts.	Minor adverse	None	
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Large	Medium	Short-term	Temporary	Medium (beneficial)	Medium	This drought action will ensure a temporary supply of water (up to 15 Ml/d), which is essential for community well-being and so, it could highlight the importance of the water environment as a critical resource for public health, recreation, and community resilience.	None	Moderate beneficial	
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	Angling and navigation take place on the reaches. Flows during a drought will be low such that a negligible reduction in flows would not be likely to further reduce the angling quality or impact the navigability of the reaches. Recreational activities may be maintained indirectly through this drought action. As such, effects on recreation are unlikely to be significant and are rated as negligible to minor hydrological across all reaches.	Negligible adverse	None	
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Medium	Medium	Short-term	Temporary	Medium (beneficial)	Medium	The drought action supports the objective by maintaining secure water resources (up to 15 Ml/d), which are fundamental to both economic sustainability and community wellbeing, while ensuring continued access to essential services.	None	Moderate beneficial	
Material assets and resource use	3.1 To minimise waste, promote resource efficiency and move towards a circular economy.	Medium	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Low	The drought action involves increasing annual abstraction, so there may be minor changes to energy use, but no generated waste or sustainable designs are envisaged. The action will make use of existing infrastructure.	Negligible adverse	Negligible beneficial	
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	Medium	High	Short-term	Temporary	Low (beneficial)	Medium	This drought action will enhance the efficiency of water resource management to support the maintenance of essential public water supplies during drought conditions. It will support drought resilience and reservoir levels.	None	Minor beneficial	
Water	4.1 To maintain or improve the quality of surface and groundwater resources.	Medium	High	Short-term	Temporary	Low (adverse)	Low	The EAR identified negligible impacts for ammonia, dissolved oxygen and orthophosphate, mostly due to the negligible hydrological impact. Overall, negligible adverse effects on water quality are anticipated.	Negligible adverse	None	
Water	4.2 To protect and enhance surface and groundwater levels and flows.	Medium	Medium to high	Short-term	Temporary	Medium (adverse)	Medium	This drought action is unlikely to protect or enhance surface and groundwater levels and flows, as it will lead to reduced flows in order to secure supply. Groundwater modelling indicates that moderate adverse effects on groundwater levels and flows are anticipated during operation. Potential adverse effects may occur at some groundwater-dependent terrestrial ecosystems (GWDTEs), although the magnitude of drawdown and flow reduction decreases rapidly with distance from the Wellfield. Following cessation of pumping, groundwater levels begin to recover but do not immediately return to baseline, indicating a lag in full restoration of natural conditions. Overall, the hydrogeological impacts are assessed as moderate adverse, varying from major to minor depending on the specific GWDTE location and its sensitivity.	Moderate adverse	None	
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources, including contributing to the achievement of WFD compliance objectives.	Large	Medium	Short-term	Temporary	Low (adverse) Medium (beneficial)	Low (adverse) Medium (beneficial)	This drought action supports the sustainable management of water resources. It will produce up to 15 Ml/d. Overall, WFD status risks are negligible for ammonia, dissolved oxygen, and orthophosphate. Any deterioration would be temporary and recovery expected once normal flows resume.	Negligible adverse	Moderate beneficial	
Water	4.4 To promote water efficiency and actions that enable sustainable water use.	Medium	Low	Short-term	Temporary	Low (beneficial)	Medium	This drought action is unlikely to promote water efficiency or sustainable water use directly, though it supports supply security and may indirectly highlight the importance of efficiency measures. While the action does not improve efficiency directly, it is part of a broader drought response accompanied by public campaigns promoting efficient water use. By improving operational flexibility this action may indirectly support more sustainable water resource management.	None	Minor beneficial	
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and protect and enhance geodiversity and ensure appropriate and efficient use of land.	Small	Low	Short-term	Temporary	Low (adverse)	Low	There are no land use changes associated with this drought action. The EAR identified negligible impacts to geomorphology.	Negligible adverse	None	
Air and Climate	6.1 To maintain and improve air quality.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	No construction activities are required for this option, and the use of existing infrastructure and treatment facilities will minimise increases in air emissions. Short-term increases in greenhouse gas emissions will occur due to increased abstraction.	Negligible adverse	None	
Air and climate	6.2 To reduce greenhouse gas emissions.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	No construction is required and minimal GHG emissions are associated with increased abstraction.	Negligible adverse	None	
Air and climate	6.3 To consider the need for adaptive actions for climate change.	Medium	Medium	Long-term	Temporary	Medium (beneficial)	Medium	Drought options are a key component of Anglian Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought conditions which may become more prevalent due to climate change, supporting climate adaptation goals by reducing vulnerability to supply stress.	None	Moderate beneficial	
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Small	Low	Short-term	Temporary	Low (adverse)	Low	None of the designated heritage assets identified in the receptors assessment have been identified as water-dependent. As water levels will already be naturally low in times of drought, any impacts to the receptors and associated landscape will be temporary in nature and will be ameliorated once the drought has passed.	Negligible adverse	None	
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, landscape character and visual amenity.	N/A	N/A	N/A	N/A	N/A	N/A	No construction activities are required for this option. The action is not located in proximity to any designated landscapes and no changes to the landscape are anticipated.	None	None	

Drought Plan Action Name:	Costessey (Heigham WTW)
Description:	During severe drought, low flows in the River Wensum could limit use of the Heigham intake. To maintain supply, AWS proposes a drought permit enabling a temporary increase in the annual licensed abstraction from the Costessey groundwater source, rising from 2,000 Ml/yr to 4,800 Ml/yr. This abstraction rate is based on a constant rate test pumping of the Costessey groundwater source. Although the daily licensed rate for the groundwater source is 30Ml/d, the current maximum operational abstraction rate is 24Ml/d and implementation of a drought permit would be within this limit. The drought permit would apply for six months, with the action to reapply for an additional six months if required. The drought permit for this action has been assessed for both a summer and winter permit as the effects are considered to be similar, however, impacts may be exacerbated during summer.

EA topics and objectives		Assessment of Drought Action									
Topic	Objective	Scale of effect: geographical &/or population affected (Small/Medium/Large)	Certainty of effect (Low/Medium/High)	Duration of effect (Short-term/Medium-term/Long-term)	Permanence of effect (Permanent/Temporary)	Magnitude of effect (Low/Medium/High)	Value/ sensitivity of receptor (Low/Medium/High)	Residual effect on sensitive receptors (assuming good practice construction methods and operation)	Commentary (construction and operation)	Residual adverse effect significance (likely to remain after reasonable mitigation)	Residual beneficial effect significance (likely to remain after reasonable mitigation)
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species), enhance ecosystem resilience and habitat connectivity.	Small	Medium	Short-term	Temporary	Low (adverse)	Medium	No construction works or infrastructure upgrades form part of this drought option. Increased abstraction may lower groundwater levels locally, potentially affecting hydrologically connected sites. The River Wensum SAC has been identified as being hydrologically connected with the Costessey abstraction groundwater source. The EAR concludes that impacts associated with the implementation of this drought action are deemed to be minor. The HRA confirms this by identifying that likely significant effects are identified only for River Wensum SAC and that implementation of mitigation measures and monitoring is recommended. A number of non-statutory designated sites (LWS, KWS), and NERC Act Section 41 (S.41) Priority Habitats and other notable and/or protected habitats are located within the Zone of Influence. All are anticipated to experience minor adverse effects. These include chalk river, lowland fen, lowland meadow, coastal and floodplain grazing marsh, and 61 Local Wildlife Sites. The EAR identifies minor impacts on the following NERC and notable species/habitat receptors; bullhead, brook lamprey, brown trout, European eel, and white-clawed crayfish. No moderate or major impacts are anticipated. A minor adverse impact is identified for WFD status (Fish, Invertebrates, Macrophytes, Phytobenthos). Overall minor adverse effects are anticipated.		Minor adverse	None
Biodiversity, flora and fauna	1.2 To protect and enhance sustainable natural resources and the ecosystem services they provide and deliver a biodiversity net gain.	Small	Medium	Short-term	Temporary	Low (adverse)	Medium	As the action does not involve any construction works, no physical habitat loss or disturbance is expected, and therefore no compensatory planting or habitat enhancement is applicable. The assessment does not identify the action as being within a designated Nature Improvement Area. The Biodiversity Net Gain (BNG) policy does not apply to projects where no groundworks, site clearance, or construction footprint will occur, and where there is no physical intervention that could impact existing habitats. This action is anticipated to cause negligible to minor changes in river flows, resulting in negligible to minor impacts on riverine habitats, including altered hydraulic conditions and reduced habitat availability. Any effect would be short-term and temporary, and mitigation through the EMP would avoid or reduce any significant adverse effects.		Minor adverse	None
Biodiversity, flora and fauna	1.3 To avoid introducing or spreading INNS.	Small	Medium	Short-term	Temporary	Low (adverse)	Medium	The EAR identified a number of invasive species of concern across the impacted reaches: demon shrimp, Nuttall's waterweed, water fern, New Zealand pigmyweed and least duckweed. Flow reductions resulting from the drought permit may extend areas of low-velocity habitat within the reach, increasing the risk of vegetative proliferation and localised spread of these species.		Minor adverse	None
Biodiversity, flora and fauna	1.4 To meet WFD objectives relating to biodiversity.	Small	Medium	Short-term	Temporary	Low (adverse)	Medium	Across the reaches, negligible through to minor hydrological impacts are anticipated from the drought action resulting in physical environment changes (river flows, river habitat and water quality) which present risks to WFD receptors. Overall, minor adverse effects are anticipated towards meeting WFD biodiversity objectives, as the EAR indicates that physical changes to WFD status receptors will result in mostly negligible/minor impacts.		Minor adverse	None
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Large	Medium	Short-term	Temporary	Medium (beneficial)	Medium	This drought action will ensure a temporary supply of water (up to 15.34 Ml/d), which is essential for community well-being, and it may also highlight the importance of the water environment as a critical resource for public health, recreation and community resilience.		None	Moderate beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Medium	Short-term	Temporary	Low (adverse)	Low (adverse)	Angling and navigation take place on the reaches. Impacts on recreation are unlikely to be significant due to the negligible to minor hydrological impact across all reaches. Minor localised and temporary effects to angling may occur, requiring adjustment in angling location or technique. The drought action is unlikely to significantly restrict recreational access but may reduce suitability in narrower or shallower sections.		Negligible adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Large	Medium	Short-term	Temporary	Medium (beneficial)	Medium	The drought action supports the objective by maintaining secure water resources (up to 15.34 Ml/d), which are fundamental to both economic sustainability and community wellbeing, while ensuring continued access to essential services.		None	Moderate beneficial
Material assets and resource use	3.1 To minimise waste, promote resource efficiency and move towards a circular economy.	Small	Medium	Short-term	Temporary	Low (beneficial) Low (adverse)	Low	No construction-related impacts are associated with this drought action. The drought action involves increasing abstraction, so there may be minor changes to energy use. The action will make use of existing infrastructure.		Negligible adverse	Negligible beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	Medium	Medium	Short to Medium-term	Temporary	Low (beneficial)	Medium	This drought action will enhance the efficiency of water resource management to support the maintenance of essential public water supplies during drought conditions. It will support drought resilience and reservoir levels.		None	Minor beneficial
Water	4.1 To maintain or improve the quality of surface and groundwater resources.	Small	Low	Short-term	Temporary	Low (adverse)	Low	Minor effects on water quality are anticipated. This is mostly due to the sensitivity of orthophosphate to flow changes resulting from the drought permit.		Negligible adverse	None
Water	4.2 To protect and enhance surface and groundwater levels and flows.	Small	Low	Short-term	Temporary	Low (adverse)	Medium	This drought action is unlikely to protect or enhance surface and groundwater levels and flows, as it will lead to reduced flows in order to secure supply. The hydrological impacts have been assessed as negligible to minor across all reaches.		Minor adverse	None
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources, including contributing to the achievement of WFD compliance objectives.	Small	Low	Short-term	Temporary	Medium (adverse) Low (beneficial)	Medium	This drought action requires a temporary increase in the annual licensed abstraction. It will produce up to 15.34 Ml/d in additional deployable output. Overall, in WFD status risks are negligible for ammonia, dissolved oxygen, and minor for orthophosphate. Any deterioration would be temporary and recovery expected once normal flows resume.		Minor adverse	Moderate beneficial
Water	4.4 To promote water efficiency and actions that enable sustainable water use.	Medium	Low	Short-term	Temporary	Low (beneficial)	Low	This drought action is unlikely to promote water efficiency or sustainable water use directly, though it supports supply security and may indirectly highlight the importance of efficiency measures. By maintaining operational supply, this action may indirectly support more sustainable water resource management.		None	Negligible beneficial
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and protect and enhance geodiversity and ensure appropriate and efficient use of land.	Small	Low	Short-term	Temporary	Low (adverse)	Low	There are no land use changes associated with this drought action. The EAR identified largely negligible impacts to geomorphology. In reach 2 and 3, there may be a minor impact on flow hydraulics resulting from the implementation of this action.		Negligible adverse	None
Air and Climate	6.1 To maintain and improve air quality.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	no construction activities are required for this action. Short-term increases in air emissions will occur due to increased abstraction. The use of existing infrastructure and treatment facilities will minimise increases in greenhouse gas emissions.		Negligible adverse	None
Air and climate	6.2 To reduce greenhouse gas emissions.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	No construction is required and minimal additional GHG emissions are associated with increased abstraction.		Negligible adverse	None
Air and climate	6.3 To consider the need for adaptive actions for climate change.	Small	Medium	Long-term	Temporary	Medium (beneficial)	Medium	Drought actions are a key component of Anglian Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought conditions which may become more prevalent due to climate change, supporting climate adaptation goals by reducing vulnerability to supply stress.		None	Moderate beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Small	Low	Short-term	Temporary	Low (adverse)	Low	None of the designated heritage assets identified in the receptors assessment have been identified as water-dependent. As water levels will already be naturally low in times of drought, any impacts to the receptors and associated landscape will be temporary in nature and will be ameliorated once the drought has passed.		Negligible adverse	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, landscape character and visual amenity.	N/A	N/A	N/A	N/A	N/A	N/A	No construction activities are required for this action. The action is not located in proximity to any designated landscapes and no changes to the landscape are anticipated.		None	None

Drought Plan Action Name:	River Trent (Hall WTW)
Description:	The River Trent drought permit allows AWS to temporarily: •Reduce the Hands-off Flow (HoF) from 1700 MI/d to 1450 MI/d •Reduce the daily abstraction rate when river flows are below 1700 MI/d to 40 MI/d instead of 64 MI/d The Hands-off Level (HoL) would remain in place and it has been assumed that the annual total would remain unchanged from that currently licenced.

SEA topics and objectives		Assessment of Drought Action									
Topic	Objective	Scale of effect: geographical &/or population affected (Small/Medium/Large)	Certainty of effect (Low/Medium/High)	Duration of effect (Short-term/Medium-term/Long-term)	Permanence of effect (Permanent/ Temporary)	Magnitude of effect (Low/Medium/High)	Value/ sensitivity of receptor (Low/Medium/High)	Residual effect on sensitive receptors (assuming good practice construction methods) (construction and operation)	Commentary	Residual adverse effect significance (likely to remain after reasonable mitigation)	Residual beneficial effect significance (likely to remain after reasonable mitigation)
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species), enhance ecosystem resilience and habitat connectivity.	Medium	Medium	Short-term	Temporary	Low (adverse)	Low	The Environmental Assessment Report (EAR) identified a number of sites that are in hydrological connectivity with the River Trent, including the Humber Estuary SPA/SAC/Ramsar site/SSSI, Besthorpe Meadows SSSI, Chesterfield Canal SSSI, Lea Marsh SSSI, and Mother Drain Misterton SSSI. None are deemed sensitive and the hydrological impact at all sites is anticipated to be negligible. The HRA identified no likely significant effects during the stage 1 screening for Humber Estuary SAC/SPA/Ramsar site from the drought permit alone or in combination. Therefore, no further assessment was required.	The EAR also identified a number of NERC habitats that are in hydrological connectivity, however none required further assessment and the hydrological impact is anticipated to be negligible at all locations.	Negligible adverse	None
Biodiversity, flora and fauna	1.2 To protect and enhance sustainable natural resources and the ecosystem services they provide and deliver a biodiversity net gain.	Medium	Medium	Short-term	Temporary	Low (adverse)	Low	As the permit does not involve any construction activities, there will be no physical habitat loss or disturbance, and therefore no opportunities for compensatory planting or habitat enhancement. The action is located outside a designated Nature Improvement Area. The Biodiversity Net Gain (BNG) policy does not apply to projects where no groundworks, site clearance, or construction footprint will occur, and where there is no physical intervention that could impact existing habitats.	The implementation of the drought permit is expected to have negligible impacts on sediment dynamics, flow hydraulics, connectivity, channel morphology, and habitat. Due to the low-energy environment, existing watercourse modifications, and effective management, changes to natural processes and habitats are anticipated to be minimal. This supports the objective of protecting sustainable natural resources and ecosystem services while maintaining biodiversity.	Negligible adverse	None
Biodiversity, flora and fauna	1.3 To avoid introducing or spreading INNS.	Small	Low	Short-term	Temporary	Low (adverse)	Low	A number of INNS species have been identified in the EARs within the ZoI, including quagga mussel, Asian clam, and several other non-native invertebrates. A number of invasive flora species have also been identified however none are deemed sensitive. As the hydrological impact has been assessed as negligible, no new pathways for introduction or spread are anticipated. The River Trent is not predicted to experience hydrological stress during implementation of the drought permit. Therefore, there is no increased risk of introduction or spread of these species.		Negligible adverse	None
Biodiversity, flora and fauna	1.4 To meet WFD objectives relating to biodiversity.	Medium	Medium	Short-term	Temporary	Low (adverse)	Low	Negligible hydrological impacts are anticipated from the drought action. These may result in minor changes to river flows, river habitat and water quality; however, the EAR indicates that physical changes to WFD receptors would be negligible.	Overall, negligible adverse effects are anticipated in relation to WFD biodiversity objectives.	Negligible adverse	None
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Large	Medium	Short-term	Temporary	High (beneficial)	Medium	This drought action will ensure a secure supply of water (up to 40 MI/d), which is essential for community well-being and may therefore highlight the importance of the water environment as a critical resource for public health, recreation, and community resilience.		None	Major beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	N/A	N/A	N/A	N/A	N/A	N/A	Due to negligible hydrological impacts, no impacts to recreation are anticipated.		None	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Medium	Medium	Short-term	Temporary	High (beneficial)	Medium	The drought action supports the objective by maintaining secure water resources (up to 40 MI/d), which are fundamental to both economic sustainability and community wellbeing, while ensuring continued access to essential services.		None	Major beneficial
Material assets and resource use	3.1 To minimise waste, promote resource efficiency and move towards a circular economy.	Medium	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Low	The drought option involves increasing abstraction during drought periods; therefore, there may be minor changes to energy use. No additional waste generation or new sustainable design measures are envisaged. The option will make use of existing infrastructure.		Negligible adverse	Negligible beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	This drought action will enhance the efficiency of water resource management to support the maintenance of essential public water supplies during drought conditions. It will support drought resilience and reservoir levels.		None	Minor beneficial
Water	4.1 To maintain or improve the quality of surface and groundwater resources.	Medium	Medium	Short-term	Temporary	Low (adverse)	Low	The water quality assessment suggests that the implementation of the drought permit will have a negligible impact on the overall water quality.	At present, water quality parameters such as ammonia and dissolved oxygen appear largely unaffected by river flows; therefore, a reduction in flow is unlikely to significantly degrade water quality. There is evidence that orthophosphate (SRP) concentrations are sensitive to river flow; however, the hydrological assessment indicates that flow reductions resulting from the drought permit would be negligible and therefore no material impacts on water quality are expected.	Negligible adverse	None
Water	4.2 To protect and enhance surface and groundwater levels and flows.	Medium	Medium to High	Short-term	Temporary	Low (adverse)	Low	The drought permit secures additional water supply by temporarily reducing the HOF. The associated hydrological impact is anticipated to be negligible.		Negligible adverse	None
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources, including contributing to the achievement of WFD compliance objectives.	Large	Medium	Short-term	Temporary	Low (adverse) High (beneficial)	Low (adverse) Medium (beneficial)	This drought action supports the sustainable management of water resources. There is no increase in pumping capacity, no new infrastructure, and no change to the maximum abstraction volume. It will produce up to 40 MI/d.		Negligible adverse	Major beneficial
Water	4.4 To promote water efficiency and actions that enable sustainable water use.	Medium	Low	Short-term	Temporary	Low (beneficial)	Low	Overall, WFD status risks are negligible for ammonia, dissolved oxygen, and orthophosphate.	While the action does not directly improve water efficiency, it forms part of a broader drought response accompanied by publicity campaigns promoting efficient water use. By improving operational flexibility, the action may indirectly support more sustainable water resource management.	None	Negligible beneficial
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and protect and enhance geodiversity and ensure appropriate and efficient use of land.	Small	Low	Short-term	Temporary	Low (adverse)	Low	There are no land use changes associated with this drought action. The EAR identified negligible impacts to geomorphology.		Negligible adverse	None
Air and Climate	6.1 To maintain and improve air quality.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	No construction activities are required for this action.	Short-term increases in air emissions would occur due to increased abstraction. The use of existing infrastructure and treatment facilities would minimise any increases in emissions.	Negligible adverse	None
Air and climate	6.2 To reduce greenhouse gas emissions.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	No construction is required and additional GHG emissions associated with increased abstraction are expected to be minimal.		Negligible adverse	None
Air and climate	6.3 To consider the need for adaptive actions for climate change.	Medium	Medium	Long-term	Temporary	High (beneficial)	Medium	Drought options form a key component of Anglian Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought conditions, which are expected to become more frequent as a result of climate change, thereby supporting climate adaptation goals by reducing vulnerability to supply stress.		None	Major beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	N/A	N/A	N/A	N/A	N/A	N/A	No construction activities are required for this action. There are no water-dependent scheduled monuments or heritage assets located in the ZoI, and, due to negligible hydrological impacts, there is unlikely to be any detectable visual impact.		None	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, landscape character and visual amenity.	N/A	N/A	N/A	N/A	N/A	N/A	No construction activities are required for this action. Due to negligible hydrological impacts, there is unlikely to be any detectable visual impact on the setting of any designated landscapes.		None	None

Drought Plan Action:	Alternative River Abstraction Sources									
Description:	Where a WRZ or reservoir has multiple abstraction points using the alternate sources to support water resources (within abstraction licences) e.g. using Bucklesham river abstraction alongside the main abstraction point to support Alton Water. This enables continued support of reservoir levels and system demand during periods of hydrological stress. The approach offers operational flexibility, helping to optimise available resources while remaining fully compliant with existing abstraction licence conditions. This action may involve the use of various abstraction sources across the region with varying benefits and therefore a precautionary approach has been applied.									
SEA topics and objectives										
Assessment of Drought Action										
Topic	Objective	Scale of effect: geographical &/or population affected (Small/Medium/Large)	Certainty of effect (Low/Medium/High)	Duration of effect (Short-term/Medium-term/Long-term)	Permanence of effect (Permanent/Temporary)	Magnitude of effect (Low/Medium/High)	Value/ sensitivity of receptor (Low/Medium/High)	Residual effect on sensitive receptors (assuming good practice construction methods) Commentary (construction and operation)	Residual adverse effect significance (likely to remain after reasonable mitigation)	Residual beneficial effect significance (likely to remain after reasonable mitigation)
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species), enhance ecosystem resilience and habitat connectivity.	Small	Medium	Short-term	Temporary	Low (adverse) Medium (beneficial)	Low	This action involves the use of existing, licensed alternative abstraction sources to support water resources within a Water Resource Zone (WRZ) during dry periods. As the action utilises existing infrastructure, no new construction is required, and therefore construction-related impacts on designated sites and protected species are not anticipated. During operation, the use of alternative abstraction points would help to reduce pressure on primary sources, thereby minimising ecological stress and the risk of degradation at any one site within the WRZ. However, there is potential for localised impacts on river flows at the alternative abstraction sites, which could affect riparian habitats, aquatic invertebrates, and fish populations, particularly during periods of low flow. These effects may be more significant in ecologically sensitive areas, including designated conservation sites and protected habitats. Nevertheless, all abstraction activities will operate within existing licensed limits, which are designed to protect environmental flow thresholds and maintain ecological integrity. The use of an existing (but currently unused) licence suggests minimal new hydrological pressures. There is no net change in abstraction or licensed hydrological balance, if the abstraction stays within licensed volumes, and no likely significant flow reduction impacts are anticipated. With appropriate monitoring and adherence to licence conditions, the overall impact is assessed as negligible.	Negligible adverse	Minor beneficial
Biodiversity, flora and fauna	1.2 To protect and enhance sustainable natural resources and the ecosystem services they provide and deliver a biodiversity net gain.	Small	Medium	Short-term	Temporary	Low (beneficial)	Medium	The operation of this drought action would take place within the limits of existing abstraction licences, with the objective of protecting environmental thresholds and maintaining ecological integrity. Alternative river abstractions would utilise existing infrastructure, and as such, no construction activities are required. Consequently, there is no scope for the delivery or provision of Biodiversity Net Gain (BNG).	None	Minor beneficial
Biodiversity, flora and fauna	1.3 To avoid introducing or spreading INNS.	Small	Medium	Short	Temporary	Low (adverse)	Low	No construction or transfer; low risk of INNS spread.	Negligible adverse	None
Biodiversity, flora and fauna	1.4 To meet WFD objectives relating to biodiversity.	Small	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Medium	This action would reduce pressure on primary abstraction points, maintaining ecological flows at the main intake site, which support aquatic habitats and species. However, there is potential for localised flow reduction at alternative points, potentially affecting aquatic habitats and species, especially those near protected or sensitive biodiversity areas. However, abstraction will be limited to existing sources and remain within existing licence conditions. Using alternative river abstraction sources could delay or prevent the need for drought interventions with greater abstraction requirements and resultant adverse impacts on river flows and aquatic species.	Negligible adverse	Minor beneficial
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Large	Medium	Short-term	Temporary	Low (beneficial)	Medium	As this action involves no construction, it is not expected to have any direct impacts on communities or households related to construction activities. By maintaining reservoir levels and water availability during drought periods, this action ensures a reliable water supply, which is vital for public health and well-being. It may also help delay or avoid the need for more intensive drought interventions, which could otherwise have adverse effects on human health and well-being.	None	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Medium	Short-term	Temporary	Low (beneficial)	Medium	No disruption is anticipated. This action will support the maintenance of reservoir levels through supplementing with water supply from alternative abstraction points, ensuring the continued availability of water bodies used for recreational activities such as angling, canoeing, etc.	None	Minor beneficial
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	No construction, therefore no disruption anticipated. This action will enhance water security during dry periods, thereby supporting local economies and reducing reliance on more disruptive drought measures. As the action will operate within the limits of existing abstraction licences, it is not anticipated to adversely affect other licensed abstractions used for economic purposes.	None	Minor beneficial
Material assets and resource use	3.1 To minimise waste, promote resource efficiency and move towards a circular economy.	Small	Medium	Short-term	Temporary	Low (beneficial)	Medium	This action aims to be resource-efficient by utilising existing infrastructure and operating within the limits of existing licences. It is not anticipated to result in waste generation.	Negligible adverse	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	Small	Medium	Short-term	Temporary	Low (beneficial)	Medium	The drought action would make greater use of the existing abstraction licences and enhance the efficiency of water resource management to support the maintenance of essential public water supplies during drought conditions.	Negligible adverse	Minor beneficial
Water	4.1 To maintain or improve the quality of surface and groundwater resources.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	Changes in flows due to abstraction at alternative sources may lead to temporary variations in water quality, such as the concentration of pollutants. Any effects on water quality are anticipated to be short-term, with no permanent impacts on the potentially affected water bodies.	Negligible adverse	None
Water	4.2 To protect and enhance surface and groundwater levels and flows.	Small	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Low (adverse) Medium (beneficial)	Utilising alternative river abstraction sources helps alleviate pressure on main abstraction points, thereby minimising reductions in river flows at those primary sites. However, this approach may cause localised impacts on river flows at the alternative abstraction locations. All abstraction activities will remain within existing licensed limits, which are specifically designed to protect environmental flow thresholds. With appropriate monitoring and adherence to licence conditions, the overall environmental impact is assessed as negligible.	Negligible adverse	Minor beneficial
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources, including contributing to the achievement of WFD compliance objectives.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	Any abstractions at the alternative source region would be within existing licence permissions. Therefore, it is not expected to result in additional pressure on surface or groundwater resources compared to the existing baseline. The drought action will be managed within licensed volumes, and operational controls will be in place to avoid adverse effects on sensitive water-dependent ecosystems. This approach supports the sustainable management of water resources and contributes to the protection of ecological status under the Water Framework Directive. Utilising alternative river abstraction sources could delay or prevent the need for drought interventions with greater abstraction requirements and resultant adverse impacts on river flows and aquatic ecosystems.	None	Minor beneficial
Water	4.4 To promote water efficiency and actions that enable sustainable water use.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	While the action does not improve water efficiency directly, it is part of a broader drought response accompanied by public campaigns promoting efficient water use. Operational flexibility may improve system efficiency. As abstractions would be within the existing licenses, there are no additional hydrological impacts associated with abstractions.	None	Minor beneficial
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and protect and enhance geodiversity and ensure appropriate and efficient use of land.	N/A	N/A	N/A	N/A	N/A	N/A	There is no construction associated with this action, and therefore, no disturbance, land clearance or groundworks are required.	None	None
Air and Climate	6.1 To maintain and improve air quality.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	No construction; operational emissions minimal.	Negligible adverse	None
Air and climate	6.2 To reduce greenhouse gas emissions.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	No construction; operational emissions minimal.	Negligible adverse	None
Air and climate	6.3 To consider the need for adaptive actions for climate change.	Small	High	Short-term	Temporary	Low (beneficial)	Medium	This drought action enables Anglian Water to diversify its water supply sources during drought conditions. While it does not increase the capacity of the existing Anglian Water network, it improves reliability and drought resilience by providing greater flexibility in targeted water delivery and maximising the utilisation of current abstraction licences.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	As the action will utilise existing infrastructure, no construction activities are required. Alternative river abstractions are not expected to result in any permanent impacts on heritage assets. The action will operate within existing licences, and therefore, the risk of groundwater drawdown affecting nearby Scheduled Monuments or listed buildings is not anticipated.	Negligible adverse	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, landscape character and visual amenity.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	No construction activities are required for this action. By relieving pressure on primary abstraction sources, it may help protect the landscape setting around key intakes and recipient reservoirs, particularly where these are located in visually sensitive areas. However, this may result in localised impacts at alternative abstraction points, especially if they are also situated in sensitive landscape settings. As operations would occur within the limits of existing abstraction licences, the impact on river flows is considered negligible.	Negligible adverse	None

Drought Plan Action:	Internal and External Transfers
Description:	Anglian Water Services (AWS) can optimise the use of existing water resources and infrastructure by maximising available water within current abstraction licences and across the network through both internal and external transfers. Internal transfers involve moving water within the AWS network, such as within or between Water Resource Zones (WRZs), to redirect surplus supplies to areas experiencing greater stress. External transfers, involve the movement of water between AWS and neighbouring water companies, based on pre-agreed arrangements. These would be activated as needed to supplement supply when internal transfers alone are insufficient. Minor construction based work may be required on sites to operate the transfer e.g. valve work.

SEA topics and objectives		Assessment of Drought Action									
Topic	Objective	Scale of effect: geographical &/or population affected (Small/Medium/Large)	Certainty of effect (Low/Medium/High)	Duration of effect (Short-term/Medium-term/Long-term)	Permanence of effect (Permanent/Temporary)	Magnitude of effect (Low/Medium/High)	Value/ sensitivity of receptor (Low/Medium/High)	Residual effect on sensitive receptors (assuming good practice construction methods)	Commentary (construction and operation)	Residual adverse effect significance (likely to remain after reasonable mitigation)	Residual beneficial effect significance (likely to remain after reasonable mitigation)
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species), enhance ecosystem resilience and habitat connectivity.	Small	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Low	This drought action does not involve any construction activities but focuses on optimising existing water resources and infrastructure within current abstraction licences. Exact locations or sources not available at this stage of the assessment. Water transfers could alter flow regimes or abstraction pressures. However, the operation will remain within existing abstraction licence limits, reducing the likelihood of additional hydrological pressure on sensitive habitats. No HRA undertaken at this stage. There is potential for ecological benefits in the recipient catchment in terms of river flows in areas where they have been significantly reduced due to drought, supporting aquatic life and ecosystems. These effects are indirect but relevant to ecological resilience.		Negligible adverse	Negligible beneficial
Biodiversity, flora and fauna	1.2 To protect and enhance sustainable natural resources and the ecosystem services they provide and deliver a biodiversity net gain.	Small	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Low	Water transfers would utilise existing infrastructure, and as such, no construction activities are required. Consequently, Biodiversity Net Gain (BNG) or enhancement measures are not included. Transfers may affect natural resource availability and ecosystem services, particularly if water is moved away from ecologically valuable areas. However, operation of this drought action would take place within the limits of existing abstraction licences, with the objective of protecting environmental thresholds and maintaining ecological integrity. No HRA undertaken at this stage. Flow support through transfers may indirectly benefit biodiversity by maintaining wetted margins and riparian zones. These conditions can support species persistence during dry periods. While not a targeted biodiversity enhancement, the action contributes positively to ecological stability in drought-prone areas.		Negligible adverse	Negligible beneficial
Biodiversity, flora and fauna	1.3 To avoid introducing or spreading INNS.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	The action does not involve physical transfer of water across catchments in a way that would risk the spread of invasive non-native species (INNS). Transfers occur within existing networks and agreements, with no new infrastructure or inter-basin movement. As such, the risk of INNS introduction or spread is considered negligible.		Negligible adverse	None
Biodiversity, flora and fauna	1.4 To meet WFD objectives relating to biodiversity.	Small	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Low (adverse) Medium (beneficial)	Water transfer may affect water availability in the natural environment. However, all operations will be limited to existing sources within current licence conditions which ensures compliance with permitted abstraction volumes. Flow support from transfers may help maintain WFD ecological status, particularly in water bodies at risk of low flows. While not a direct WFD measure, the action supports compliance by stabilising flow regimes.		Negligible adverse	Minor beneficial
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Small	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Low (adverse) Medium (beneficial)	As this action does not involve any construction, no construction-related impacts on communities or households or disruption to public access are anticipated. While water transfers will not increase the total volume of licensed abstraction, they will improve the overall reliability and resilience of the water supply system during drought conditions. Transfers can augment supplies in areas experiencing severe drought, helping to ensure sufficient water for human consumption and continued access in water-stressed areas. Improved water supply reliability supports public health and wellbeing during drought. Ensuring continued access to safe water reduces stress and supports hygiene, particularly in vulnerable communities.		Negligible adverse	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Low	No construction or physical disruption to recreational areas is expected. Transfers may affect recreational water bodies, particularly if abstraction or flow changes reduce water levels in areas used for informal recreation. Transfers may also affect water quality, potentially impacting aquatic populations that are important for recreational fishing and wildlife viewing. During operation, water transfers may supplement river flows and reservoir levels in the receiving catchment during dry periods, potentially supporting continued recreational activities such as angling, canoeing, and rowing by helping to maintain suitable water levels.		Negligible adverse	Negligible beneficial
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Small	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Low (adverse) Medium (beneficial)	The action is operational in nature and does not involve physical works that would affect communities directly. Water transfers may enhance water security and system resilience during dry periods, thereby supporting local economies and reducing reliance on more disruptive drought measures. As the action will operate within the limits of existing abstraction licences, it is not anticipated to adversely affect other licensed abstractions used for economic purposes or the donor zones. Transfers may ensure equitable distribution of water across regions.		Negligible adverse	Minor beneficial
Material assets and resource use	3.1 To minimise waste, promote resource efficiency and move towards a circular economy.	Small	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Low (adverse) Medium (beneficial)	No construction is involved, and the drought action relies on existing infrastructure. No waste generation or resource use is expected beyond standard operational energy inputs. This action aims to be resource-efficient by utilising existing infrastructure and operating within the limits of existing licences. This supports long-term resource management goals.		Negligible adverse	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	Small	Medium	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought action would make greater use of the existing abstraction licences and use existing infrastructure, enhancing the efficiency of water resource management to support the maintenance of essential public water supplies during drought conditions.		None	Minor beneficial
Water	4.1 To maintain or improve the quality of surface and groundwater resources.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	Augmented flows can provide greater dilution of nutrients and other pollutants, potentially improving water quality during dry periods. Transfers may slightly alter water quality parameters due to mixing of sources, but these changes would be controlled within license conditions. Overall, any effects on water quality, or ecological status, during drought when systems may be under stress, are anticipated to be short-term, with no permanent impacts on the potentially affected water bodies.		Negligible adverse	None
Water	4.2 To protect and enhance surface and groundwater levels and flows.	Small	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Low (adverse) Medium (beneficial)	Operation of this action would occur within the limits of existing licences, and as such, adverse impacts on surface and groundwater levels and flows within the donor catchment are expected to be minimal. The action directly supports water quantity by redistributing available supplies to areas under stress. This helps maintain flows and reservoir levels during drought. Water transfers would maintain or improve surface water levels during dry periods. The benefits are most significant during periods of very low flow, when the additional water can have a meaningful beneficial impact on river levels.		Negligible adverse	Minor beneficial
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources, including contributing to the achievement of WFD compliance objectives.	Small	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Low	Although no construction is involved, transfers may affect land-water interactions in donor or receiving zones. The drought action will operate within existing abstraction licences, ensuring that no additional pressure is placed on water resources. This supports sustainable abstraction practices and reduces the risk of ecosystem disruption. This strategy promotes sustainable water resource management and helps safeguard ecological status in accordance with the Water Framework Directive.		Negligible adverse	Negligible beneficial
Water	4.4 To promote water efficiency and actions that enable sustainable water use.	Small	Medium	Short-term	Temporary	Low (beneficial)	Low	Although this action does not directly enhance efficiency, it forms part of a wider drought response that includes public campaigns encouraging efficient water use. By increasing operational flexibility and optimising the use of existing licensed abstractions, this action can indirectly contribute to more sustainable water resource management through the efficient use of existing resources by redistributing surplus supplies.		None	Negligible beneficial
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and protect and enhance geodiversity and ensure appropriate and efficient use of land.	Small	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Low	This action involves no construction, therefore no land clearance or groundworks are necessary. Although no construction is involved, transfers may affect land-water interactions in donor or receiving zones, particularly where groundwater levels influence soil stability or geodiversity features. The lack of location data prevents assessment of proximity to sensitive landforms.		Negligible adverse	Negligible beneficial
Air and Climate	6.1 To maintain and improve air quality.	Small	Medium	Short-term	Temporary	Low (adverse)	Medium	There are no construction activities required, as the action will utilise existing infrastructure. It will operate within existing licences. Operational transfers may involve vehicle movements or energy use that contribute to local air emissions.		Minor adverse	None
Air and climate	6.2 To reduce greenhouse gas emissions.	Small	Medium	Short-term	Temporary	Low (adverse)	Medium	As the action will utilise existing infrastructure, no construction activities are required. Operational transfers may involve vehicle movements or energy use that contribute to local air emissions. Internal and external water transfers demand significant energy for pumping, treatment, and distribution. This energy requirement increases as water resources become scarcer, transfers cover longer distances, or when the source is at a lower elevation.		Minor adverse	None
Air and climate	6.3 To consider the need for adaptive actions for climate change.	Small	Medium	Short-term	Temporary	Low (beneficial)	Low	Internal and external transfers enhance drought resilience by allowing flexible redistribution of water. This supports climate adaptation goals by reducing vulnerability to supply stress. This drought action enables Anglian Water to diversify its water supply sources during drought conditions. While it does not increase the capacity of the existing Anglian Water network, it improves reliability and resilience by providing greater flexibility in targeted water delivery and maximising the utilisation of current abstraction licences.		None	Negligible beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	As the action will utilise existing infrastructure, no construction activities are required. Transfers may affect historic water features or landscapes, particularly if abstraction or flow changes alter their character. The lack of location data prevents assessment of proximity to heritage assets. Water transfers are not expected to result in any permanent impacts on heritage assets. The action will operate within existing licences, and therefore the risk of groundwater drawdown affecting nearby Scheduled Monuments or listed buildings is not anticipated.		Negligible adverse	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, landscape character and visual amenity.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	No new infrastructure is proposed, but operational changes may affect landscape character or visual amenity, especially in sensitive areas. The lack of location data prevents assessment of proximity to designated landscapes.		Negligible adverse	None

Drought Plan Action:	Loss reduction
Description:	This is deemed as a supply action rather than a demand action because demand actions start post WTW output. Implementing schemes to reduce the water lost in the raw water system or within a WTW. This may require some minor construction work on the raw water system to fix leaks etc. and then also through applying fixes to WTW assets. But this could also be done though control optimisation.

SEA topics and objectives		Assessment of Drought Action									
Topic	Objective	Scale of effect: geographical &/or population affected (Small/Medium/Large)	Certainty of effect (Low/Medium/High)	Duration of effect (Short-term/Medium-term/Long-term)	Permanence of effect (Permanent/Temporary)	Magnitude of effect (Low/Medium/High)	Value/ sensitivity of receptor (Low/Medium/High)	Residual effect on sensitive receptors (assuming good practice construction methods and operation)	Commentary (construction and operation)	Residual adverse effect significance (likely to remain after reasonable mitigation)	Residual beneficial effect significance (likely to remain after reasonable mitigation)
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species), enhance ecosystem resilience and habitat connectivity.	Small	Medium	Long-term	Permanent	Low (beneficial)	Medium	The limited construction activities associated with loss reduction at water treatment works (WTWs) are unlikely to cause any disturbance to biodiversity, flora, or fauna. These activities would take place within the WTW footprint, and are expected to be small in scale, typically limited to the installation of new equipment or the repair and replacement of existing infrastructure. Assuming the use of good practice construction methods, the impacts during the construction phase are anticipated to be negligible. Reducing water losses at the WTW will, in turn, reduce the need for abstraction at source. This has the potential to deliver beneficial impacts by supporting improved flow conditions and reducing pressure on sensitive habitats and species.		None	Minor beneficial
Biodiversity, flora and fauna	1.2 To protect and enhance sustainable natural resources and the ecosystem services they provide and deliver a biodiversity net gain.	Small	Medium	Long-term	Permanent	Low (beneficial)	Medium	Construction activities associated with loss reduction will take place within existing WTW and are therefore not expected to result in any disturbance to local habitats or associated ecosystem services. It is recognised that minimising the volume of water lost within WTW will lessen the need for abstraction from Anglian Water's sources. This may result in beneficial effects by supporting natural resources and enhancing ecosystem services. There is not expected to be any scope for delivery or provision of Biodiversity Net Gain as part of this action.		None	Minor beneficial
Biodiversity, flora and fauna	1.3 To avoid introducing or spreading INNS.	n/a	n/a	n/a	n/a	n/a	n/a	No interaction with natural water bodies or disturbance outside existing facilities; no INNS pathways anticipated.		None	None
Biodiversity, flora and fauna	1.4 To meet WFD objectives relating to biodiversity.	Medium	Medium	Long-term	Permanent	Low (beneficial)	Medium	Loss reduction in WTW will reduce the need for water abstraction from Anglian Water's sources, easing pressure on aquatic ecosystems. This will help maintain natural flow levels, prevent further ecological degradation, and support the resilience of habitats and species.		None	Minor beneficial
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Large	Low	Long-term	Permanent	Low (adverse) Low (beneficial)	Low (adverse) Medium (beneficial)	Temporary and localised increases in traffic due to small-scale works at existing WTW facilities may cause some disturbance and disruption. However, as the specific locations of the WTW sites are currently unknown, the extent of potential impacts remains uncertain. The application of best practice construction methods is expected to minimise any adverse effects. Loss reduction in WTW will help to ensure levels of service are maintained through enabling provision of water that would have otherwise been lost.		Negligible adverse	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Low	Short-term	Temporary	Low (adverse)	Low	Minor disturbance and disruption to recreational amenities, such as temporary and localised increases in traffic, are anticipated during the construction phase due to small-scale works limited to existing facilities. However, as the specific locations of the WTW sites are not yet confirmed, the extent of potential impacts remains uncertain.		Negligible adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Medium	Medium	Long-term	Permanent	Low (beneficial)	Medium	This drought action will help maintain water supply reliability during drought conditions, supporting a resilient water supply for both customers and economic activity.		None	Minor beneficial
Material assets and resource use	3.1 To minimise waste, promote resource efficiency and move towards a circular economy.	Small	Medium	Long-term	Permanent	Low (adverse) Low (beneficial)	Low	Some construction may be required, including the installation of new equipment and repairs, which could involve the use of raw materials and potentially lead to waste generation. Any waste would be managed in accordance with standard construction waste protocols. It is assumed that any necessary materials would be sourced locally. Water loss reduction in WTW will result in the decrease in the volume of water lost in the supply network and therefore the energy and chemicals used to treat it. The action will primarily utilise existing infrastructure, minimising the need for extensive new development.		Negligible adverse	Negligible beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	Small	High	Long-term	Permanent	Low (beneficial)	Medium	This drought action will help maintain water supply reliability during drought conditions, supporting a resilient water supply for both customers and economic activity.		None	Minor beneficial
Water	4.1 To maintain or improve the quality of surface and groundwater resources.	Medium	Medium	Long-term (beneficial) Short-term (adverse)	Permanent (beneficial) Temporary (adverse)	Low (adverse) Low (beneficial)	Low	Construction activities associated with loss reduction in WTW is unlikely to impact on surface and groundwater quality. Assuming best practice construction methods, impacts of the construction phase are anticipated to be negligible. The reduction in water lost will result in reduced requirement for abstraction at source, and therefore also mitigate any surface water quality effects associated with abstraction.		Negligible adverse	Negligible beneficial
Water	4.2 To protect and enhance surface and groundwater levels and flows.	Medium	Medium	Long-term	Permanent	Low (beneficial)	Medium	Loss reduction in WTW will not directly result in, or modify any abstraction (surface water or groundwater) and therefore will not affect surface water or groundwater levels. However, the reduction in water lost will result in a reduced requirement for abstraction at source.		None	Minor beneficial
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources, including contributing to the achievement of WFD compliance objectives.	Medium	High	Medium to Long-term	Permanent	Low (beneficial)	Medium	This action will have a beneficial impact on maintenance of water supplies, through reduced requirement for abstraction at source. This may have medium to long-term impacts on consumer water usage.		None	Minor beneficial
Water	4.4 To promote water efficiency and actions that enable sustainable water use.	Medium	High	Medium to Long-term	Permanent	Medium (beneficial)	Medium	Reducing water losses directly improves the efficiency of the water supply system by ensuring more of the treated water reaches customers. This reduces the volume of raw water abstraction required to meet demand, supporting sustainable use of water resources. The action also promotes responsible asset management and operational resilience, especially critical during drought periods.		None	Moderate beneficial
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and protect and enhance geodiversity and ensure appropriate and efficient use of land.	n/a	n/a	n/a	n/a	n/a	n/a	No disturbance outside existing facilities.		None	None
Air and Climate	6.1 To maintain and improve air quality.	Small	Low	Short-term	Temporary	Low (adverse)	Medium	Minor adverse effects are anticipated as a result of dust emissions during the construction phase as the small-scale works will be limited to existing facilities.		Minor adverse	None
Air and climate	6.2 To reduce greenhouse gas emissions.	Small	Medium	Short-term (adverse) Long-term (beneficial)	Temporary (adverse) Permanent (beneficial)	Low (adverse) Low (beneficial)	Low (adverse) Medium (beneficial)	Vehicle trips during the construction phase may cause greenhouse gas emissions. Loss reduction within WTW will result in reduced water loss leading to long term associated energy savings (decreased greenhouse gas emissions associated with decreased need for water treatment and pumping).		Negligible adverse	Minor beneficial
Air and climate	6.3 To consider the need for adaptive actions for climate change.	Small	High	Long-term	Permanent	Low (beneficial)	High	Water loss reduction within WTW will enable the identification of inefficiencies, supporting resilient infrastructure planning for a changing climate.		None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Small	Medium	Short-term	Temporary	Low (beneficial)	Low	No impacts on heritage sites anticipated during the construction phase as works will be limited to existing facilities. There is the potential for reduced requirement for abstraction at source, potentially reducing the magnitude of any drought related archaeology and cultural heritage impacts.		None	Negligible beneficial
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, landscape character and visual amenity.	Small	Medium	Short-term	Temporary	Low (beneficial)	Low	No impacts on visual amenity anticipated during the construction phase as works will be limited to existing facilities. Additionally, the reduced need for water abstraction at the source could help mitigate the severity of any drought-related landscape or visual impacts.		None	Negligible beneficial

Drought Plan Action:	River Augmentation and Support									
Description:	This action involves using boreholes to abstract water from the ground and discharge into the river supplementing flows (within abstraction licences) e.g. Balkeerne for Ardleigh. This drought action does not involve any construction. It may involve the use of various abstraction sources across the region with varying benefits and therefore a precautionary approach has been applied.									
SEA topics and objectives										
Assessment of Drought Action										
Topic	Objective	Scale of effect: geographical &/or population affected (Small/Medium/Large)	Certainty of effect (Low/Medium/High)	Duration of effect (Short-term/Medium-term/Long-term)	Permanence of effect (Permanent/Temporary)	Magnitude of effect (Low/Medium/High)	Value/ sensitivity of receptor (Low/Medium/High)	Residual effect on sensitive receptors (assuming good practice construction methods) Commentary (construction and operation)	Residual adverse effect significance (likely to remain after reasonable mitigation)	Residual beneficial effect significance (likely to remain after reasonable mitigation)
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species), enhance ecosystem resilience and habitat connectivity.	Small	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Low (adverse) Medium (beneficial)	This action involves the abstraction of groundwater and its discharge into rivers to supplement natural flows during dry periods. Existing infrastructure will be used, and therefore, no construction is required. As such, construction-related impacts on designated sites and protected species are not anticipated. By supplementing natural river flows, this action helps maintain sufficient water levels and flow rates to support aquatic habitats that are critical for fish, invertebrates, and aquatic plants. This contributes positively to the ecological health of the river, resulting in beneficial impacts. Ecological response to flow support is variable. However, there is potential for adverse effects due to increased river flows, such as the flushing and sedimentation of sensitive habitats or species mortality resulting from sudden changes in flow or water quality. All activities will operate within the limits of existing abstraction licences, which are designed to protect environmental thresholds. Therefore, any adverse effects are expected to be minimal, and the overall impact is assessed as negligible adverse. No HRA required as within existing license volumes and conditions.	Negligible adverse	Minor beneficial
Biodiversity, flora and fauna	1.2 To protect and enhance sustainable natural resources and the ecosystem services they provide and deliver a biodiversity net gain.	Small	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Low (adverse) Medium (beneficial)	No physical works. This action is not anticipated to significantly affect the local hydrological cycle. Groundwater abstraction will operate within the limits of existing licences, and no major water-dependent features are expected to be impacted. This action will maintain sufficient water levels and flow rates. This may result in beneficial effects by supporting natural resources and enhancing ecosystem services. There is not expected to be any scope for the delivery or provision of Biodiversity Net Gain as part of this action. No HRA required as within existing license volumes and conditions.	Negligible adverse	Minor beneficial
Biodiversity, flora and fauna	1.3 To avoid introducing or spreading INNS.	Small	Low	Short-term	Temporary	Low (adverse)	Low	There is no construction of water transfer associated with this action. The operation of the scheme is expected to have a low risk of introduction or spread of INNS, provided that appropriate biosecurity protocols are in place and consistently implemented.	Negligible adverse	None
Biodiversity, flora and fauna	1.4 To meet WFD objectives relating to biodiversity.	Small	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Low (adverse) Medium (beneficial)	Water abstraction may affect water availability in the natural environment. However, abstraction will be limited to existing sources and remain within current licence conditions. The volume of water to be transferred is not expected to be significant enough to place pressure on groundwater systems compared to the existing baseline. The water discharged into the river will supplement natural flows such that impact on aquatic habitats and species would be minimised during dry conditions. Flow support may contribute positively to WFD ecological status.	Negligible adverse	Minor beneficial
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Large	Medium	Short-term	Temporary	Low (beneficial)	Medium	As there is no construction associated with this action, no construction-related impacts on communities or households are anticipated. While the river augmentation will not increase the total volume of licensed abstraction, it will improve the overall reliability and resilience of the water supply system during drought conditions and support downstream water users.	None	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Medium	Short-term	Temporary	Low (beneficial)	Medium	During operation, this drought action will supplement river flows during dry periods, potentially supporting recreational activities such as angling, canoeing, and rowing by maintaining suitable water levels. As a result, it is likely to have beneficial impacts on recreation.	None	Minor beneficial
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Small	Low	Short-term	Temporary	Low (beneficial)	Medium	River augmentation may enhance water security and system resilience during dry periods, thereby supporting local economies. As the action will operate within the limits of existing abstraction licences, it is not anticipated to adversely affect other licensed abstractions used for economic purposes.	None	Minor beneficial
Material assets and resource use	3.1 To minimise waste, promote resource efficiency and move towards a circular economy.	Small	Medium	Short-term	Temporary	Low (beneficial)	Medium	This action aims to be resource-efficient by utilising existing infrastructure and operating within the limits of existing licences. No waste generated; no resource recovery involved.	None	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	Small	Medium	Short-term	Temporary	Low (beneficial)	Medium	The drought action would make greater use of the existing abstraction licences and enhance the efficiency of water resource management to support the maintenance of essential public water supplies during drought conditions.	None	Minor beneficial
Water	4.1 To maintain or improve the quality of surface and groundwater resources.	Small	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Low	Changes in flows may lead to temporary variations in water quality. Augmented flows can provide greater dilution of nutrients and other pollutants, potentially improving water quality during dry periods. However, there is also a risk of reduced surface water quality if the abstracted groundwater is of poor quality of leads to mobilisation of contaminants. This risk is expected to be mitigated by ceasing groundwater abstraction when water quality does not meet acceptable standards. Overall, any effects on water quality are anticipated to be short-term, with no permanent impacts on the potentially affected water bodies.	Negligible adverse	Negligible beneficial
Water	4.2 To protect and enhance surface and groundwater levels and flows.	Small	Medium	Short-term	Temporary	Low (beneficial)	Medium	Abstraction within existing license conditions and volumes supports river flows during drought.	None	Minor beneficial
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources, including contributing to the achievement of WFD compliance objectives.	Small	Low	Short-term	Temporary	Low (beneficial)	Medium	Any abstractions at the source region would be within existing licence permissions. Therefore, it is not expected to result in additional pressure on surface or groundwater resources compared to the current baseline. The drought action will be managed within licensed volumes, and operational controls will be in place to avoid adverse effects on sensitive water-dependent ecosystems. This approach supports the sustainable management of water resources and contributes to the protection of ecological status under the Water Framework Directive.	None	Minor beneficial
Water	4.4 To promote water efficiency and actions that enable sustainable water use.	Small	Medium	Short-term	Temporary	Medium (beneficial)	Low	While the action does not improve efficiency directly, it is part of a broader drought response accompanied by public campaigns promoting efficient water use. By improving operational flexibility and maximising the use of existing licensed abstraction, this action may indirectly support more sustainable water resource management. As abstractions would be within the existing licenses, there are no additional hydrological impacts associated with abstractions.	None	Minor beneficial
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and protect and enhance geodiversity and ensure appropriate and efficient use of land.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	No ground disturbance or land use change. The scheme uses existing infrastructure sites/ corridors, which support efficient use of land. There is potential for geomorphological impacts, however, these are anticipated to be negligible.	Negligible adverse	None
Air and Climate	6.1 To maintain and improve air quality.	n/a	n/a	n/a	n/a	n/a	n/a	There are no construction activities required, as the action will utilise existing infrastructure. It will operate within existing licences, and therefore no emissions impacting air quality beyond baseline conditions are anticipated.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	No construction; operational emissions relating to pumping minimal.	Negligible adverse	None
Air and climate	6.3 To consider the need for adaptive actions for climate change.	Small	High	Short-term	Temporary	Low (beneficial)	Medium	The drought action allows Anglian Water to diversify its water sources under drought conditions. Although this drought action does not change the capacity of the existing Anglian Water network, it will enhance the reliability and drought resilience by allowing greater flexibility in targeted delivery, as well as maximise the use of the current abstraction licenses.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Small	Low	Short-term	Temporary	Low (adverse)	Low	As the action will utilise existing infrastructure, no construction activities are required. River augmentation and support are not expected to result in any permanent impacts on heritage assets. The action will operate within existing licences, and therefore the risk of groundwater drawdown affecting nearby Scheduled Monuments or listed buildings is not anticipated.	Negligible adverse	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, landscape character and visual amenity.	Small	Low	Short-term	Temporary	Low (adverse)	Low	No construction activities are required for this action. No anticipated visual or physical landscape impact.	Negligible adverse	None

Drought Plan Action:	Source Commissioning, Maintenance and Rehabilitation										
Description	Commissioning already licenced sources or carrying out maintenance or rehabilitation to increase or return a source to the yield expected/required. Minor construction based work may be required on supply sites.										
SEA topics and objectives								Assessment of action			
Topic	Objective	Scale of effect: geographical &/or population affected (Small/Medium/Large)	Certainty of effect (Low/Medium/High)	Duration of effect (Short-term/Medium-term/Long-term)	Permanence of effect (Permanent/Temporary)	Magnitude of effect (Low/Medium/High)	Value/ sensitivity of receptor (Low/Medium/High)	Residual effect on sensitive receptors (assuming good practice construction methods)	Commentary (construction and operation)	Residual adverse effect significance (likely to remain after reasonable mitigation)	Residual beneficial effect significance (likely to remain after reasonable mitigation)
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species), enhance ecosystem resilience and habitat connectivity.	Small	Low	Long-term	Temporary	Low (adverse)	Medium	While existing infrastructure will be used where possible, this action may involve construction-related activities for the rehabilitation and maintenance of supply sources. These activities are expected to be minor in scale and temporary in nature. However, as the specific locations of the licensed sources and supply sites are currently unknown, the extent of potential impacts remains uncertain. The application of best practice construction methods is expected to minimise any adverse effects.		Minor adverse	None
Biodiversity, flora and fauna	1.2 To protect and enhance sustainable natural resources and the ecosystem services they provide and deliver a biodiversity net gain.	Small	Low	Long-term	Temporary	Low (adverse)	Medium	During operation, increasing a source's yield may result in potential impacts if the sources are hydrologically connected to SACs, SPAs or Ramsar sites and their qualifying features. A more detailed assessment will be required once the source locations are confirmed, to evaluate potential effects on designated sites and protected habitats and species.		Minor adverse	None
Biodiversity, flora and fauna	1.3 To avoid introducing or spreading INNS.	Small	Low	Long-term	Temporary	Low (adverse)	Low	As the exact locations of the sources are currently unknown, there remains some uncertainty regarding the potential extent and nature of impacts.		Minor adverse	None
Biodiversity, flora and fauna	1.4 To meet WFD objectives relating to biodiversity.	Small	Low	Long-term	Temporary	Low (adverse)	Low	Minor construction activities associated with the rehabilitation and maintenance of supply sources are not expected to require additional land take and are therefore unlikely to result in the loss of biodiversity units. These works are likely to be confined to existing assets or sites owned by the water company. As such, the requirement to deliver Biodiversity Net Gain is not anticipated to apply to this action.		Negligible adverse	None
Biodiversity, flora and fauna	1.3 To avoid introducing or spreading INNS.	Small	Low	Long-term	Temporary	Low (adverse)	Low	There is a risk of introducing or spreading INNS during construction from vehicle and equipment movement and ground disturbance which could introduce pathways for the spread of INNS. To mitigate this, appropriate measures will be implemented, including the identification and treatment or removal of any invasive species present on site prior to the commencement of works.		Negligible adverse	None
Biodiversity, flora and fauna	1.4 To meet WFD objectives relating to biodiversity.	Small	Low	Long-term	Temporary	Low (adverse)	Low	The operation of the scheme is not expected to result in the introduction or spread of INNS, provided that biosecurity protocols are established and maintained throughout.		Negligible adverse	None
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Small	Low	Short-term	Temporary	Low (adverse) Low (beneficial)	Low (adverse) Medium (beneficial)	Minor construction activities are associated with this action. The application of best practice construction methods is expected to minimise any adverse effects on biodiversity.		Negligible adverse	None
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Low	Short-term	Temporary	Low (adverse)	Low	During operation, increasing a source's yield, to enhance the volume of water that can be reliably abstracted, may affect water availability in the surrounding natural environment. However, all abstraction will be limited to existing sources and remain within current licence conditions. As the specific locations of the licensed sources and supply sites are currently unknown, the extent and nature of potential impacts remain uncertain.		Negligible adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Small	Low	Short-term	Temporary	Low (adverse) Low (beneficial)	Low (adverse) Medium (beneficial)	Temporary, minor impacts from noise, dust, and vibration may occur during the construction phase. While these activities are expected to be limited in scale, uncertainty remains regarding the extent and nature of potential effects due to the unknown locations of the sources, particularly in relation to Air Quality Management Areas (AQMAs), Noise Important Areas, or nearby residential receptors. These effects will be mitigated through the application of best practice construction methods.		Negligible adverse	Minor beneficial
Material assets and resource use	3.1 To minimise waste, promote resource efficiency and move towards a circular economy.	Small	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Low (adverse) Medium (beneficial)	The action will help maintain a resilient water supply during drought conditions, supporting both customers and economic activity with minimal environmental impact if implemented appropriately. It will not increase licensed abstraction volumes but will improve the reliability of the existing supply system.		Negligible adverse	None
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	Small	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Low (adverse) Medium (beneficial)	The construction activities associated with this action may result in temporary impacts on recreation, including potential disruption to public paths, rights of access, and short-term noise or dust disturbances. However, the scale of works is expected to be minor. These effects would be mitigated as far as practicable through the application of best practice construction methods. As the specific locations of licensed sources and supply sites are currently unknown, some uncertainty remains regarding the extent and nature of these impacts.		Negligible adverse	None
Water	4.1 To maintain or improve the quality of surface and groundwater resources.	Small	Low	Short-term	Temporary	Low (adverse)	Low	Once operational, the action is unlikely to have any effects on recreation or access to the environment.		Negligible adverse	None
Water	4.2 To protect and enhance surface and groundwater levels and flows.	Small	Low	Short-term	Temporary	Low (adverse)	Low	There is potential for short-term local employment opportunities and increased local procurement. However, construction and maintenance activities may also cause temporary disruption. Implementation of the drought action will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity with no permanent adverse effects on the environment, if best practice is followed.		Negligible adverse	Minor beneficial
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources, including contributing to the achievement of WFD compliance objectives.	Small	Low	Short-term	Temporary	Low (adverse) Low (beneficial)	Low (adverse) Medium (beneficial)	Source commissioning, maintenance, and rehabilitation may enhance water security and resilience during dry periods, supporting local economies and reducing the need for disruptive drought measures.		Negligible adverse	Minor beneficial
Water	4.4 To promote water efficiency and actions that enable sustainable water use.	Small	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Low (adverse) Medium (beneficial)	This action will require the use of new materials and may generate a minor amount of construction waste, such as packaging and spoil, during the construction phase. All waste will be managed in accordance with standard construction waste protocols. The action aims to be resource-efficient by utilising existing infrastructure where possible. Additional power may be required during operation if new pumping/treatment activities are brought into operation.		Negligible adverse	Minor beneficial
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and protect and enhance geodiversity and ensure appropriate and efficient use of land.	Small	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Low (adverse) Low (beneficial)	During operation, only small quantities of materials may be needed for routine maintenance, repairs, and monitoring. This action supports resource efficiency by using existing infrastructure and using water already in the system more effectively, reducing the risk of supply interruptions and avoiding wastage.		Negligible adverse	Minor beneficial
Air and Climate	6.1 To maintain and improve air quality.	Small	Medium	Short-term	Temporary	Low (adverse)	Low (adverse)	No opportunities to promote the sustainable management of natural resources have been identified during the construction phase of this action. However, the drought action will make greater use of existing abstraction licences and improve the efficiency of water resource management, supporting the continued provision of essential public water supplies during drought conditions.		None	Negligible beneficial
Air and climate	6.2 To reduce greenhouse gas emissions.	Medium	Medium	Short-term	Temporary	Low (adverse)	Low (adverse)	As the specific locations of the licensed sources and supply sites are currently unknown, the extent and nature of potential impacts remain uncertain. Therefore, potential effects on water quality, both during construction and operation, cannot be fully assessed at this stage.		Negligible adverse	None
Air and climate	6.3 To consider the need for adaptive actions for climate change.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Low (beneficial)	The scale of any construction works is expected to be minor. Localised impacts may occur at abstraction points, but these would remain within licensed limits and be subject to prior investigation. With the application of best practice construction methods, any such effects are anticipated to be negligible.		Negligible adverse	None
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Small	Low	Short-term	Temporary	Low (adverse)	Low (adverse)	While there may be a risk associated with abstraction at the source, this would occur within licensed limits and be subject to prior environmental assessment. As the specific source and receiving locations are currently unknown, some uncertainty remains in the assessment.		Negligible adverse	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, landscape character and visual amenity.	Small	Low	Short-term	Temporary	Low (adverse)	Low (adverse)	Any abstractions at the source region would be within existing licence permissions. Therefore, it is not expected to result in additional pressure on surface or groundwater resources compared to the current baseline. The drought action will be managed within licensed volumes, and operational controls will be in place to avoid adverse effects on sensitive water-dependent ecosystems. This approach supports the sustainable management of water resources.		Negligible adverse	Minor beneficial
								While the action does not improve efficiency directly, it is part of a broader drought response accompanied by public campaigns promoting efficient water use.		None	Negligible beneficial
								By improving operational flexibility and maximising the use of existing licensed abstraction, this action may indirectly support more sustainable water resource management. As abstractions would be within the existing licenses, there are no additional hydrological impacts associated with abstractions.		None	Negligible beneficial
								Some construction may be required for the rehabilitation and maintenance of supply sources. The use of existing infrastructure and established corridors will support efficient land use, and standard soil management practices will be applied to minimise disturbance.		Negligible adverse	Negligible beneficial
								Adverse effects on air quality may arise from vehicle movements and machinery use during the construction phase. These impacts could be more pronounced in areas already sensitive to air quality. As specific locations have not yet been identified, the magnitude of potential effects remains uncertain. However, given the small-scale nature of the anticipated works and the application of best practice construction methods, any adverse impacts are expected to be negligible.		Negligible adverse	None
								The construction phase is expected to result in a temporary increase in greenhouse gas emissions due to vehicle and machinery use. Additionally, there may be a rise in energy consumption associated with abstracting water at the restored or enhanced yield levels following the rehabilitation and maintenance of supply sources. However, the overall impact remains uncertain, as it will depend on the scale and duration of the action's implementation.		Negligible adverse	None
								This drought action is designed to enhance resource efficiency by utilising existing licensed supplies and infrastructure. However, the outcome depends on how long and how widely it is applied.		Negligible adverse	None
								The drought action allows Anglian Water to diversify its water sources under drought conditions. Although this drought action does not change the capacity of the existing Anglian Water network, it will enhance the reliability and resilience by allowing greater flexibility in targeted delivery, as well as maximise the use of the current abstraction licences.		None	Negligible beneficial
								During construction, there may be temporary impacts on the setting of nearby heritage assets or designated sites. However, some uncertainty remains, as the exact locations of licensed sources and supply sites, and their proximity to protected heritage features, have not yet been confirmed.		Negligible adverse	None
								Construction activities are expected to be minor and are likely to be limited to existing infrastructure or Anglian Water owned sites and therefore impacts are expected to be negligible.		Negligible adverse	None
								There may be some temporary effects on the local landscape, during the construction phase. However, because construction is minor and short-term, these impacts are considered negligible.		Negligible adverse	None
								The exact locations for licensed sources and supply sites are not yet known and could be inside designated or non-designated landscapes, including National Parks and National Landscapes. Any visual or landscape impacts are expected to be temporary.		Negligible adverse	None

Drought Plan Action:	Supply System Optimisation and Conjunctive Use											
Description:	Making control or system based changes to ensure water is being used in the most efficient way possible within a supply network. As well as moving water to the areas most at risk. Conjunctive use is normally where we would utilise a mixture of SW and GW sources to support a specific area. Normally only completed by control changes but some minor construction may be required e.g. adding a new valve. Assessment assumes that operation would be within existing license volume and conditions.											
SEA topics and objectives								Assessment of Drought Action				
Topic	Objective	Scale of effect: geographical &/or population affected (Small/Medium/Large)	Certainty of effect (Low/Medium/High)	Duration of effect (Short-term/Medium-term/Long-term)	Permanence of effect (Permanent/Temporary)	Magnitude of effect (Low/Medium/High)	Value/ sensitivity of receptor (Low/Medium/High)	Residual effect on sensitive receptors (assuming good practice construction methods)	Commentary (construction and operation)	Residual adverse effect significance (likely to remain after reasonable mitigation)	Residual beneficial effect significance (likely to remain after reasonable mitigation)	
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species), enhance ecosystem resilience and habitat connectivity.	Small	Medium	Short-term	Temporary	Low (adverse) Medium (beneficial)	Medium	This action may involve minor construction works, such as the installation of new valves, which could cause temporary disturbance to habitats and species, particularly if undertaken within or near sensitive sites. As the exact locations of these works are currently unknown, there is some uncertainty regarding the specific nature and extent of potential impacts. However, the scale of construction-related activity is expected to be limited to existing pipeline routes and infrastructure, minimising disturbance. The application of best practice construction methods is anticipated to minimise adverse effects associated with these activities.	During operation, optimisation of the supply system and the coordinated management of surface and groundwater sources through conjunctive use will reduce stress on sources approaching critical conditions. This helps to maintain river flows during drought, thereby supporting the ecological integrity of protected habitats and contributing to the conservation of species populations and biodiversity.	Minor adverse	Moderate beneficial	
Biodiversity, flora and fauna	1.2 To protect and enhance sustainable natural resources and the ecosystem services they provide and deliver a biodiversity net gain.	Small	Medium	Short-term	Temporary	Low (adverse) Medium (beneficial)	Medium	This action may help alleviate pressure on natural water resources in deficit areas during periods of drought thus protecting these resources and the ecosystem services they provide.	The construction-related activity associated with this action is expected to be small in scale and of short duration. The application of best practice construction methods is expected to minimise any adverse impacts on natural resources and the ecosystem services they support.	Minor adverse	Moderate beneficial	
Biodiversity, flora and fauna	1.3 To avoid introducing or spreading INNS.	Small	Medium	Short-term	Temporary	Low (adverse)	Medium	There is a low risk of introducing or spreading INNS during construction from vehicle and equipment movement and ground disturbance which could introduce pathways for the spread of INNS. To mitigate this, appropriate measures and biosecurity protocols will be implemented, including the identification and treatment or removal of any invasive species present on site prior to the commencement of works.	Conjunctive use of sources involves interconnection of different water supplies which risks the transfer of INNS potentially harming native flora and fauna.	Minor adverse	None	
Biodiversity, flora and fauna	1.4 To meet WFD objectives relating to biodiversity.	Small	Medium	Short-term	Temporary	Low (adverse) Medium (beneficial)	Low (adverse) Medium (beneficial)	While operation remains within licensed limits, repeated or prolonged use of certain sources may reduce natural flow variability and seasonal patterns, potentially affecting the hydro-ecology of donor water bodies and compromising WFD status over time. However, by taking a balanced and adaptive approach, this action reduces pressure on sensitive water bodies by allowing abstraction to shift between surface and groundwater sources based on ecological conditions. This helps avoid over-abstraction from ecologically vulnerable areas, supporting the protection of aquatic ecosystems.	Where flows are maintained in priority catchments, the action can positively contribute to the hydrological conditions required for designated sites. Flow support may contribute positively to WFD ecological status.	Negligible adverse	Moderate beneficial	
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Medium	Medium	Short-term	Temporary	Low (adverse) Medium (beneficial)	Medium	Temporary, minor impacts from noise, dust, and vibration may arise during the construction phase. Although these activities are expected to be small in scale and of short duration, there is some uncertainty regarding the extent and significance of potential effects due to the unknown locations of construction, particularly in relation to Air Quality Management Areas (AQMAs), Noise Important Areas, or nearby residential receptors. These impacts will be minimised through the use of best practice construction methods.	This action will contribute to maintaining a resilient water supply during drought conditions, supporting customer needs. It will not increase licensed abstraction volumes but will enhance the reliability and efficiency of the existing supply system.	Minor adverse	Moderate beneficial	
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Medium	Short-term	Temporary	Low (adverse) Medium (beneficial)	Medium	Construction activities associated with this action may cause temporary impacts on recreation, including potential disruption to public paths, access rights, and short-term noise or dust disturbances. However, the scale of these works is expected to be minor. Such effects would be minimised as far as practicable through the implementation of best practice construction methods. Since the specific locations of construction sites are currently unknown, some uncertainty remains regarding the extent and nature of these impacts.	Once operational, this action will help sustain recreational access by maintaining river and reservoir levels during drought, thereby supporting activities such as fishing, boating, canoeing, and water sports.	Minor adverse	Moderate beneficial	
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Small	Medium	Short-term	Temporary	Low (adverse) Medium (beneficial)	Low (adverse) Medium (beneficial)	Minor works unlikely to disrupt. Implementation of the drought action will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	Supply system optimisation and conjunctive use may enhance water security and resilience during dry periods, supporting local economies.	Negligible adverse	Moderate beneficial	
Material assets and resource use	3.1 To minimise waste, promote resource efficiency and move towards a circular economy.	Small	Medium	Short-term	Temporary	Low (adverse) Medium (beneficial)	Low (adverse) Medium (beneficial)	Minor works may generate waste; operational efficiency improved. This action will require the use of new materials and may generate minimal construction waste, such as packaging and spoil, during the construction phase. All waste will be managed in accordance with standard construction waste protocols. The action aims to be resource-efficient by utilising existing infrastructure where possible.	During operation, only small quantities of materials may be needed for routine maintenance, repairs, and monitoring.	Negligible adverse	Moderate beneficial	
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	Small	Medium	Short-term	Temporary	Medium (beneficial)	Medium	This drought action would make greater use of the existing abstraction licences and enhance the efficiency of water resource management to support the maintenance of essential public water supplies during drought conditions. Supports drought resilience and reservoir level.		None	Moderate beneficial	
Water	4.1 To maintain or improve the quality of surface and groundwater resources.	Small	Medium	Short-term	Temporary	Low (adverse) Medium (beneficial)	Low (adverse) Medium (beneficial)	No direct impact on water quality expected. By optimising the use of multiple sources through conjunctive use, pressure on individual surface and groundwater bodies can be reduced, and water quality may be improved through dilution of contaminants and enhanced supply resilience. However, there are also potential risks to water quality, including the mobilisation of contaminants, introduction of pathogens, and cumulative impacts resulting from the mixing of surface and groundwater sources.		Negligible adverse	Moderate beneficial	
Water	4.2 To protect and enhance surface and groundwater levels and flows.	Small	Medium	Short-term	Temporary	Medium (beneficial)	Medium	Enhancing operational efficiency and employing conjunctive use enables a balanced approach to water abstraction between surface water and groundwater sources, minimising dependence on any single source and supporting more consistent water levels and flows. Coordinated management through interconnection of sources allows withdrawals to be made from less stressed areas, thereby safeguarding surface and groundwater resources in more vulnerable catchments.		None	Moderate beneficial	
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources, including contributing to the achievement of WFD compliance objectives.	Small	Medium	Short-term	Temporary	Medium (beneficial)	Medium	Any water abstractions at the source will comply with existing licence permissions, so no additional pressure on surface or groundwater resources beyond baseline conditions is anticipated. The drought action will be conducted within authorised volumes, with operational controls implemented to prevent adverse impacts on sensitive water-dependent ecosystems. This method promotes sustainable water resource management. Supports WFD flow objectives		None	Moderate beneficial	
Water	4.4 To promote water efficiency and actions that enable sustainable water use.	Small	Medium	Short-term	Temporary	Medium (beneficial)	Medium	While the action does not improve efficiency directly, it is part of a broader drought response accompanied by public campaigns promoting efficient water use.	By improving operational flexibility and maximising the use of existing licensed abstraction while alternating between water sources, this action may indirectly support more sustainable water resource management.	None	Moderate beneficial	
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and protect and enhance geodiversity and ensure appropriate and efficient use of land.	Small	Medium	Short-term	Temporary	Low (adverse)	Medium	Some construction may be required, involving land clearance or groundworks, such as valve installation. Minor works may disturb soils locally. The use of existing infrastructure and established corridors will promote efficient land use, and standard soil management practices will be implemented to minimise disturbance. As site locations are not yet confirmed, there is some uncertainty regarding proximity to geologically important sites or high-value agricultural land.		Minor adverse	None	
Air and Climate	6.1 To maintain and improve air quality.	Small	Medium	Short-term	Temporary	Low (adverse)	Medium	Minor adverse effects on air quality may arise from vehicle movements and machinery use during the construction phase. These impacts could be more pronounced in areas already sensitive to air quality. As specific locations have not yet been identified, the magnitude of potential effects remains uncertain. However, given the small-scale nature of the anticipated works and the application of best practice construction methods, any adverse impacts are expected to be minor.		Minor adverse	None	
Air and climate	6.2 To reduce greenhouse gas emissions.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	The construction phase is expected to cause a temporary increase in greenhouse gas emissions due to the use of vehicles and machinery. However, as construction activities will be minor and the action primarily utilises existing infrastructure, embodied emissions from construction are minimal and likely marginal.		Negligible adverse	None	
Air and climate	6.3 To consider the need for adaptive actions for climate change.	Small	Medium	Short-term	Temporary	Medium (beneficial)	Medium	The drought action allows Anglian Water to diversify its water sources under drought conditions. Although this drought action does not change the capacity of the existing Anglian Water network, it will enhance the reliability and drought resilience by allowing greater flexibility in targeted delivery, as well as maximise the use of the current abstraction licenses.		None	Moderate beneficial	
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Small	Medium	Short-term	Temporary	Low (adverse)	Medium	During construction, there may be temporary effects on the setting of nearby heritage assets or designated sites. However, some uncertainty remains as the exact locations of construction sites and their proximity to protected heritage features have not yet been confirmed. Construction activities will be minor, such as valve installation, and typically involve localised land clearance within existing infrastructure sites or along pipeline corridors. Minor works are unlikely to affect heritage assets.		Minor adverse	None	
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, landscape character and visual amenity.	Small	Medium	Short-term	Temporary	Low (adverse)	Medium	Temporary effects on the local landscape may occur during the construction phase. However, as construction activities are minor and short-term, these impacts are considered minimal.	The exact locations of construction sites are not yet confirmed and could be within designated or non-designated landscapes, including National Parks and National Landscapes. Any visual or landscape impacts are expected to be temporary. Minor works unlikely to affect landscape character.	Minor adverse	None	

Drought Plan Action:	Tankering
Description:	This drought action involves operating tankers (large road vehicles designed to transport water) to move water to the places that need it. This action is not an extreme measure. This "normal" action would be used more routinely or strategically to optimise how the water system operates and manage localised imbalances in demand or supply, rather than to try and keep people on water etc.

SEA topics and objectives		Assessment of Drought Action									
Topic	Objective	Scale of effect: geographical &/or population affected (Small/Medium/Large)	Certainty of effect (Low/Medium/High)	Duration of effect (Short-term/Medium-term/Long-term)	Permanence of effect (Permanent/Temporary)	Magnitude of effect (Low/Medium/High)	Value/ sensitivity of receptor (Low/Medium/High)	Residual effect on sensitive receptors (assuming good practice construction methods) Commentary (construction and operation)		Residual adverse effect significance (likely to remain after reasonable mitigation)	Residual beneficial effect significance (likely to remain after reasonable mitigation)
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species), enhance ecosystem resilience and habitat connectivity.	Medium	Low	Short-term	Temporary	Low (adverse) Low (beneficial)	Low	Tankering will involve the use of heavy vehicles, which may lead to short-term impacts on air quality, noise levels and risk of accidental spills. There may also be some limited construction activities where pipework is needed to connect tankers to supply points or network entry points, or temporary road access improvements leading to minor adverse impacts. Assuming best practice construction methods, these impacts are anticipated to be negligible. The number of vehicles involved is expected to be limited as this action is not intended for use during extreme drought conditions but rather to optimise water and will primarily be used in small and isolated rural areas. As such, significant effects on biodiversity, including flora, fauna, designated sites, protected species, and habitats, are considered unlikely. Any abstractions in the source region would occur within existing licence permissions. Tankering may help alleviate pressure on water resources in deficit areas during periods of drought thus protecting aquatic ecosystems. The specific locations where tankering would occur have not yet been identified, so the extent of any potential impact remains uncertain.		Negligible adverse	Negligible beneficial
Biodiversity, flora and fauna	1.2 To protect and enhance sustainable natural resources and the ecosystem services they provide and deliver a biodiversity net gain.	Medium	Low	Short-term	Temporary	Low (adverse) Low (beneficial)	Low	Water transferred via tankering would be sourced from existing sources and remain within the limits of current licences. While abstracting water from these sources may reduce availability in the natural environment, any such action would need to be supported by environmental assessments and appropriate licensing. The Biodiversity Net Gain (BNG) policy does not apply to projects where no groundworks, site clearance, or construction footprint will occur, and where there is no physical intervention that could impact existing habitats. Tankering may help alleviate pressure on natural water resources in deficit areas during periods of drought thus protecting these resources and the ecosystem services they provide. Since the specific locations for tankering operations have not yet been determined, the potential environmental impacts remain uncertain.		Negligible adverse	Negligible beneficial
Biodiversity, flora and fauna	1.3 To avoid introducing or spreading INNS.	Medium	Medium	Short-term (adverse)	Temporary	Low (adverse)	Low	Tankering activities may have a minor effect on the spread of INNS through vehicle and equipment movement and ground disturbance. Appropriate biosecurity measures should be implemented so as to minimise the risk of spread of INNS.		Negligible adverse	None
Biodiversity, flora and fauna	1.4 To meet WFD objectives relating to biodiversity.	Medium	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Low	Tankering will be supported by water abstraction, which has the potential to affect water availability in the natural environment. However, abstraction will be restricted to existing sources and will remain within current licence conditions. The volume of water to be tankered is not expected to be significant enough to place additional pressure on aquatic ecosystems or alter natural flow levels at the source, relative to the current baseline. Therefore, it is not anticipated to cause significant ecological degradation or adversely impact aquatic habitats and species. Conversely, tankering may help relieve pressure on water resources in deficit areas during drought conditions, thereby contributing to the protection of aquatic ecosystems and maintaining natural flow levels in recipient areas.		Negligible adverse	Negligible beneficial
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Medium	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Medium	This action would primarily target rural and isolated areas, which typically have low population densities. Potential nuisance impacts may arise from increased road traffic due to tanker movements, as well as operational effects at loading and unloading sites, including lighting and the possible use of power generators. Although the proximity to Air Quality Management Areas (AQMAs) and Noise Action Planning Important Areas is currently unknown, any associated dust, noise, or vibration near refill and discharge points is expected to be temporary and short-term in nature. Tankering water to areas with supply deficits would support health and wellbeing by enhancing the resilience of the public water supply. However, it is unlikely to significantly promote the perceived value of the water environment for health and wellbeing.		Minor adverse	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Medium	Low	Short-term	Temporary	Low (adverse)	Medium	Installation of temporary pipework, where required, may cause temporary and minor disruptions to public footpaths, bridleways, and other recreational areas during pipeline installation. Potential nuisance impacts could also result from increased road traffic due to tanker movements, along with operational effects at loading and unloading sites, such as lighting and the possible use of power generators, particularly where these activities occur near formal or informal recreational sites. At this stage, the proximity of the refill and discharge points to recreational sites is not known, and a precautionary assessment has been applied. The drought action will aim to protect existing recreational access and green infrastructure with post-construction reinstatement, where required.		Minor adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Medium	Low	Short-term	Temporary	Low (adverse) Low (beneficial)	Medium	Tankering water is expected to lead to minor beneficial effects that promote a sustainable economy and support communities with good access to services. The transfer of water to areas with a water deficit will help to support a more resilient public water supply in these areas, in turn supporting the local economy and community development. There is potential for short-term local employment opportunities and increased local procurement. However, increased traffic and associated activities at loading and unloading sites may also cause temporary disruption to nearby businesses.		Minor adverse	Minor beneficial
Material assets and resource use	3.1 To minimise waste, promote resource efficiency and move towards a circular economy.	Small	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Low	This action aims to be resource-efficient by utilising existing infrastructure and operating within the limits of existing licences. However, there may be some construction waste generated related to the installation of pipelines (where required), though this is expected to be minimal and managed in line with standard construction waste protocols. While the action aims to be resource-efficient by utilising the nearest existing licensed water sources, tankering itself is inherently resource-intensive.		Negligible adverse	Negligible beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Low	As abstractions would be within the existing licenses, there are no additional hydrological impacts associated with abstractions. Tankering water to areas with supply deficits could lead to beneficial effects from more efficient management of water resources helping to ensure the public water supply for homes and industry in those areas. As this drought action is short-term, any effects would be temporary. The action allows for sustainable use of water using existing licenses.		None	Negligible beneficial
Water	4.1 To maintain or improve the quality of surface and groundwater resources.	Small	Low	Short-term	Temporary	Low (adverse)	Low	The implementation of this drought action will not lead to the improvement in the quality of surface and groundwater resources as transferred water would be treated and be delivered direct for customer use. There may be localised impacts at the source as a result of additional abstraction, however this would be within licensed conditions and subject to investigations prior to use therefore impacts are considered negligible.		Negligible adverse	None
Water	4.2 To protect and enhance surface and groundwater levels and flows.	Small	Low	Short-term	Temporary	Low (adverse) Low (beneficial)	Low (adverse) Medium (beneficial)	This action is expected to alleviate pressure on local water resources, thereby supporting the protection of surface and groundwater levels, which are likely to be reduced during drought conditions. While there may be a minor risk associated with water abstraction at the source, this would be carried out under licensed conditions and subject to prior environmental assessment. However, as the specific locations of the source and receiving areas have not yet been identified, a degree of uncertainty remains within this assessment.		Negligible adverse	Minor beneficial
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources, including contributing to the achievement of WFD compliance objectives.	Medium	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Low	Tankering will require the use of heavy vehicles, which may pose a risk of accidental spills at refill/ discharge locations. Any abstractions in the source region would occur within existing licence permissions. Tankering may help alleviate pressure on water resources in deficit areas during periods of drought. The drought action will be managed within licensed volumes, with operational controls in place to prevent adverse impacts on sensitive water-dependent ecosystems. This approach supports the sustainable management of water resources and contributes to the protection of ecological status in line with the Water Framework Directive.		Negligible adverse	Negligible beneficial
Water	4.4 To promote water efficiency and actions that enable sustainable water use.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Low	While the action does not improve efficiency directly, it is part of a broader drought response accompanied by public campaigns promoting efficient water use. By improving operational flexibility and maximising the use of existing licensed abstraction, this action may indirectly support more sustainable water resource management. As abstractions would be within the existing licenses, there are no additional hydrological impacts associated with abstractions.		None	Negligible beneficial
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and protect and enhance geodiversity and ensure appropriate and efficient use of land.	Medium	Medium	Short-term	Temporary	Low (adverse)	Low	Tankering will require the use of heavy vehicles, which may pose a risk of accidental spills. As vehicles are expected to use the existing road network, impacts on soils and land use are considered negligible. Some limited construction may be needed to install pipework or improve temporary access, potentially resulting in minor adverse effects. However, the use of existing infrastructure sites or corridors would promote efficient land use, and standard soil management practices will be followed. As refill and discharge locations are not yet confirmed, there is some uncertainty regarding proximity to geologically important sites or high-value agricultural land.		Negligible adverse	None
Air and Climate	6.1 To maintain and improve air quality.	Medium	Low	Short-term	Temporary	Low (adverse)	Medium	The transfer of water by tankering could have minor adverse effects to air quality caused by vehicle movements. The number of vehicles involved is expected to be limited as this action is not intended for use during extreme drought conditions but rather to optimise water and will primarily be used in small and isolated rural areas. Adverse effects would be larger in magnitude in areas sensitive to air quality pressures. As no specific area has been identified there is some uncertainty to the magnitude of this effect.		Minor adverse	None
Air and climate	6.2 To reduce greenhouse gas emissions.	Medium	Low	Short-term	Temporary	Low (adverse)	Medium	The transfer of water by tankering offers no opportunity to reduce greenhouse gas emissions and may increase them due to fuel consumption per litre of water delivered. However, the scale and duration of implementation are currently uncertain, which may influence the overall impact. This drought action aims to improve resource efficiency by utilising the nearest existing licensed supplies; however, the overall effect will depend on the duration and scale of its implementation. The extent to which renewable energy or energy-efficient practices will be employed remains uncertain at this stage.		Minor adverse	None
Air and climate	6.3 To consider the need for adaptive actions for climate change.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Low	The drought action allows Anglian Water to diversify its water sources under drought conditions. Although this drought action does not change the capacity of the existing Anglian Water network, it will enhance the reliability and resilience by allowing greater flexibility in targeted delivery to areas in a water deficit, as well as maximise the use of the current abstraction licenses.		None	Negligible beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Small	Low	Short-term	Temporary	Low (adverse) Low (beneficial)	Medium (adverse) Low (beneficial)	Tankering is not expected to cause permanent impacts on heritage assets or the historic environment. However, the temporary presence of large vehicles may affect the setting of nearby designated sites. There is potential for reduced pressure on water resources in deficit areas during periods of drought, which may in turn lessen drought-related impacts on archaeology and cultural heritage assets in recipient locations. However, there is some uncertainty, as the exact locations of refill and discharge points, and their proximity to heritage sites, have not yet been confirmed.		Minor adverse	Negligible beneficial
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, landscape character and visual amenity.	Small	Low	Short-term	Temporary	Low (adverse) Low (beneficial)	Medium (adverse) Low (beneficial)	Tankering water to smaller, isolated rural areas may result in minor adverse effects on the local landscape, particularly where temporary infrastructure and associated vehicle movements are required. However, these impacts are expected to be short-term in nature. In recipient areas, reduced pressure on water resources during periods of drought may help lessen drought-related impacts on the landscape. However, some uncertainty remains due to the unknown proximity of sites to sensitive landscape features. The exact locations of refill and discharge points are currently unknown and may fall within designated or non-designated landscapes, including National Parks and National Landscapes. Any visual or landscape effects are anticipated to be temporary.		Minor adverse	Negligible beneficial

Drought Plan Action:	Extreme Communications Plan
Description	The Extreme Communications Plan delivers intensified, targeted messaging to rapidly reduce demand during severe drought by keeping customers informed of storage levels, promoting major areas for savings, and driving behavioural change through strong, direct campaigns and guidance on very low water use. It builds on existing communication channels and customer trust to encourage widespread acceptance that excessive use is unacceptable during extreme conditions. Volumetric benefit - Minor

SEA topics and objectives		Assessment of Drought Action								
Topic	Objective	Scale of effect: geographical &/or population affected (Small/Medium/Large)	Certainty of effect (Low/Medium/High)	Duration of effect (Short-term/Medium-term/Long-term)	Permanence of effect (Permanent/Temporary)	Magnitude of effect (Low/Medium/High)	Value/ sensitivity of receptor (Low/Medium/High)	Residual effect on sensitive receptors (assuming good practice construction methods) Commentary (construction and operation)	Residual adverse effect significance (likely to remain after reasonable mitigation)	Residual beneficial effect significance (likely to remain after reasonable mitigation)
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species), enhance ecosystem resilience and habitat connectivity.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	This action will build on the campaigns, communications and customer trust that has been established before and during the drought. Forms of communication will use a variety of types of media. This action will have no adverse impacts on biodiversity, flora or fauna, nor designated sites of nature conservation interest. However, the action will reduce consumer demand for water and thereby reduce the requirement for abstraction from Anglian Water’s sources, with the potential for beneficial impacts on flow sensitive habitats/species.	None	Minor beneficial
Biodiversity, flora and fauna	1.2 To protect and enhance sustainable natural resources and the ecosystem services they provide and deliver a biodiversity net gain.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	This action will have no adverse effects on natural resources or ecosystem services. However the action will further reduce consumer demand for water and thereby further reduce the requirement for abstraction from Anglian Water’s sources, with the potential for further beneficial effects on sustainable natural resources. The Biodiversity Net Gain (BNG) policy does not apply to projects where no groundworks, site clearance, or construction footprint will occur, and where there is no physical intervention that could impact existing habitats.	None	Minor beneficial
Biodiversity, flora and fauna	1.3 To avoid introducing or spreading INNS.	n/a	n/a	n/a	n/a	n/a	n/a	An extreme communications plan is considered to have no impact on the introduction or spreading of INNS.	None	None
Biodiversity, flora and fauna	1.4 To meet WFD objectives relating to biodiversity.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	This action will reduce the need for water abstraction from Anglian Water’s sources, easing pressure on aquatic ecosystems. This will help maintain natural flow levels, prevent further ecological degradation, and support the resilience of habitats and species.	None	Minor beneficial
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Large	Medium	Short-term	Temporary	Low (beneficial)	Medium	This action will result in water savings which will contribute towards improving the security of supply for customers in Anglian Water’s supply region. It will also help raise awareness of the importance and value of water environment for health and well-being.	None	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Medium	Medium	Short-term	Temporary	Medium (adverse)	Low	An extreme communications plan might discourage tourism activities involving water whilst encouraging water saving behaviour. At this drought level, it is unlikely that water-based recreation will continue.	Minor adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Large	Medium	Short-term	Temporary	Low (beneficial)	Medium	This action will result in water savings which will contribute towards improving the security of water supply for businesses in the region, therefore protecting the local economy.	None	Minor beneficial
Material assets and resource use	3.1 To minimise waste, promote resource efficiency and move towards a circular economy.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	This action will not involve any increased material resource use and waste production. This action would lead to reduced water wastage at the household level through behaviour change, less energy and waste associated with water treatment and pumping, as reduced demand leads to lower operational loads, and decreased pressure on infrastructure.	None	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	This action will encourage sustainable water resource management and focus on the biggest potential areas for savings.	None	Minor beneficial
Water	4.1 To maintain or improve the quality of surface and groundwater resources.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	Reductions in demand for water from this action would result in a reduced requirement for abstraction from Anglian Water’s sources, reducing associated abstraction impacts on surface water and groundwater quality in severe drought conditions.	None	Minor beneficial
Water	4.2 To protect and enhance surface and groundwater levels and flows.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	An extreme communications plan is considered to have a beneficial impact on hydrological flows, as reduced demand for water will result in reduced requirements for abstraction from water sources in the Anglian Water operating area. Natural flow regimes can be maintained, and behaviour changes can result in water resilience.	None	Minor beneficial
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources, including contributing to the achievement of WFD compliance objectives.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	This action is directly linked to sustainable water resource management, as reduced consumer demand for water will result in reduced abstraction. This, in turn, should help maintain ecological flow requirements, prevent over-abstraction, and achieve good ecological and chemical status in WFD waterbodies.	None	Minor beneficial
Water	4.4 To promote water efficiency and actions that enable sustainable water use.	Medium	Medium	Medium-term	Temporary	Low (beneficial)	Medium	This action is considered to have a beneficial impact via reduced consumer demand for water. This may have medium-term impacts on consumer behaviour and water usage through hard-hitting messages and images and guides on how to cut down water use . The plan could foster a long-term culture of responsible water use, embedding conservation habits in daily life. Changes in behaviour may promote a balance between human needs and ecosystem health.	None	Minor beneficial
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and protect and enhance geodiversity and ensure appropriate and efficient use of land.	n/a	n/a	n/a	n/a	n/a	n/a	No impacts on soils, geology and land use are anticipated as a result of this drought action.	None	None
Air and Climate	6.1 To maintain and improve air quality.	n/a	n/a	n/a	n/a	n/a	n/a	No impacts on air quality are anticipated as a result of this action.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	Medium	Medium	Medium-term	Temporary	Low (beneficial)	Low	This action would lead to reduced water use at household level through behaviour change, resulting in less energy required for water treatment and pumping and associated emissions.	None	Negligible beneficial
Air and climate	6.3 To consider the need for adaptive actions for climate change.	Medium	High	Short-term	Temporary	Low (beneficial)	Medium	Extreme demand management actions are a key component of Anglian Water’s Drought Plan. The Plan aims to ensure the resilience of water supplies to drought which may become more prevalent due to climate change. An extreme communications plan will inform, engage, and prepare communities for the ongoing and future impacts of climate change	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Low	This action is considered to have no direct impact on the historic environment, heritage assets and their settings and archaeologically important sites. There is the potential for reduced demand for water to result in reduced requirement for abstraction at Anglian Water’s sources, reducing impacts on water-dependent archaeology and cultural heritage assets.	None	Negligible beneficial
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, landscape character and visual amenity.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Low	An extreme communications plan is considered to have no direct impact on landscape and visual amenity or any changes to access to the countryside or open space. There is the potential for reduced demand for water to result in reduced requirement for abstraction at Anglian Water’s sources, reducing impacts of drought-related landscape or visual impacts.	None	Negligible beneficial

Drought Plan Action:	Extreme Water Efficiency & Customer Metering
Description	Extreme water efficiency & customer Metering is a long-term and permanent intervention which uses enhanced smart meter data, targeted communication, customerspecific reduction targets, and financial or practical incentives to drive rapid reductions in household and business water use during extreme drought. Through ~~time~~ insights, clearer expectations, and rewards for efficiency, the action strengthens behavioural change and supports ~~long~~ term reductions in demand. Volumetric benefit: Minor

SEA topics and objectives		Assessment of Drought Action								
Topic	Objective	Scale of effect: geographical &/or population affected (Small/Medium/Large)	Certainty of effect (Low/Medium/High)	Duration of effect (Short-term/Medium-term/Long-term)	Permanence of effect (Permanent/Temporary)	Magnitude of effect (Low/Medium/High)	Value/ sensitivity of receptor (Low/Medium/High)	Residual effect on sensitive receptors (assuming good practice construction methods) Commentary (construction and operation)	Residual adverse effect significance (likely to remain after reasonable mitigation)	Residual beneficial effect significance (likely to remain after reasonable mitigation)
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species), enhance ecosystem resilience and habitat connectivity.	Medium	High	Long-term	Permanent	Low (beneficial)	Medium	Water efficiency and customer metering in an extreme drought scenario would attempt to further reduce water demand, through stronger campaigns around actions that make a difference, increased regularity of water balance updates, through setting specific targets for customers (e.g., PCC of 50 litres/person/day, and rewarding customers who reduce their usage. This would consequently lower abstraction from natural sources. This could lead to secondary benefits for biodiversity, ecosystems, and the natural environment. There is not construction associated with this action and there is not expected to be any disturbance to biodiversity, flora, or fauna associated with this action.	None	Minor beneficial
Biodiversity, flora and fauna	1.2 To protect and enhance sustainable natural resources and the ecosystem services they provide and deliver a biodiversity net gain.	Medium	Medium	Long-term	Permanent	Low (beneficial)	Medium	This action is not expected to result in any disturbance to local habitats. It is recognised that reduced consumer demand for water associated with this action will lessen the need for abstraction from Anglian Water's sources. This may result in beneficial effects by supporting natural resources and enhancing ecosystem services. The Biodiversity Net Gain (BNG) policy does not apply to projects where no groundworks, site clearance, or construction footprint will occur, and where there is no physical intervention that could impact existing habitats.	None	Minor beneficial
Biodiversity, flora and fauna	1.3 To avoid introducing or spreading INNS.	n/a	n/a	n/a	n/a	n/a	n/a	This action will not affect the spread of INNS.	None	None
Biodiversity, flora and fauna	1.4 To meet WFD objectives relating to biodiversity.	Medium	Medium	Long-term	Permanent	Low (beneficial)	Medium	Smart metering will encourage water savings and reduce the need for water abstraction from Anglian Water's sources, easing pressure on aquatic ecosystems. This will help maintain natural flow levels, prevent further ecological degradation, and support the resilience of habitats and species.	None	Minor beneficial
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Large	Low	Short-term	Permanent (beneficial) Temporary (adverse)	Low (adverse) Low (beneficial)	Low (adverse) Medium (beneficial)	Water efficiency and customer metering in an extreme drought scenario would attempt to further reduce water demand, through stronger campaigns around actions that make a difference, increased regularity of water balance updates, through setting specific targets for customers (e.g., PCC of 50 litres/person/day, and rewarding customers who reduce their usage. This would lower the need for abstraction and protect water supplies for customers. Reduced demand for water could help to avoid the need for more restrictive actions such as temporary use bans during the drought, however, this would depend on the severity of the drought itself, so the impact is uncertain. This action will cause no extra cost to customers and is therefore not expected to have any adverse impact on water bills. Wide-scale incentivisation may benefit low occupancy households with potential inequity between household types.	Negligible adverse	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Medium	Medium	Long-term	Permanent	Low (beneficial)	Low	By supporting water conservation, this action can help protect river levels and water quality, which benefits water-based recreation (e.g. angling, boating) and associated habitats.	None	Negligible beneficial
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Medium	Medium	Long-term	Permanent	Low (beneficial)	Medium	Reduced demand for water associated with this extreme action may change customer behaviours over the long term and even after the drought has ended. This would help to promote a sustainable economy which is more resilient to drought effects.	None	Minor beneficial
Material assets and resource use	3.1 To minimise waste, promote resource efficiency and move towards a circular economy.	Small	High	Long-term	Permanent	Low (adverse) Low (beneficial)	Low	Other than the installation of smart meters, water efficiency and customer metering in an extreme drought scenario would not involve the use of materials and would promote sustainable water use through using stronger campaigns around actions that make a difference (e.g., leaky loo and changing customer behaviours. Existing infrastructure would be utilised.	Negligible adverse	Negligible beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	Medium	Medium	Long-term	Permanent	Medium (beneficial)	Medium	Reduced demand for water associated with this extreme action may change customer behaviours over the long term and even after the drought has ended. There may be an additional benefit from the power of word of mouth. This would promote long-term water efficiency and sustainable management of natural resources.	None	Moderate beneficial
Water	4.1 To maintain or improve the quality of surface and groundwater resources.	Medium	Medium	Long-term	Permanent	Medium (beneficial)	Medium	This extreme action would reduce demand (and therefore abstraction requirements) over the long term, which could have some minor beneficial secondary effects for surface water quality.	None	Minor beneficial
Water	4.2 To protect and enhance surface and groundwater levels and flows.	Medium	Medium	Long-term	Permanent	Low (beneficial)	Medium	This action would reduce demand (and therefore abstraction requirements) over the long term, which could have some minor beneficial secondary effects for river flows and groundwater resources.	None	Minor beneficial
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensatory flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources, including contributing to the achievement of WFD compliance objectives.	Medium	High	Long-term	Permanent	Low (beneficial)	Medium	Reduction in demand for water will result in a reduced requirement for abstraction from Anglian Water's sources, helping provide some protection for water-dependent ecosystems. Potential benefits could include prevention of deterioration of surface and groundwater status, and the promotion of sustainable water use in the long-term.	None	Minor beneficial
Water	4.4 To promote water efficiency and actions that enable sustainable water use.	Medium	Medium	Long-term	Permanent	Medium (beneficial)	Medium	Reduced demand for water associated with this extreme action may change customer behaviours over the long term and even after the drought has ended. There may be an additional benefit from the power of word of mouth. This would promote long term water efficiency and sustainable management of water resources.	None	Moderate beneficial
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and protect and enhance geodiversity and ensure appropriate and efficient use of land.	N/A	N/A	N/A	N/A	N/A	N/A	There is not anticipated to be any impact on soil, geology and land use associated with this action.	None	None
Air and Climate	6.1 To maintain and improve air quality.	Small	Low	Short-term	Temporary	Low (beneficial)	Low	A reduction water use is anticipated to generate energy savings (decreased emissions associated with decreased need for water treatment and pumping), which may lead to a small improvement in air quality.	None	Negligible beneficial
Air and climate	6.2 To reduce greenhouse gas emissions.	Medium	Medium	Long-term	Permanent	Low (beneficial)	Low	A reduction water use is anticipated to generate energy savings (decreased emissions associated with decreased need for water treatment and pumping).	None	Negligible beneficial
Air and climate	6.3 To consider the need for adaptive actions for climate change.	Small	High	Long-term	Permanent	Low (beneficial)	Medium	Demand management actions are a key component of Anglian Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought which may become more prevalent due to climate change. Water efficiency and customer metering is an adaptive measure that will help water systems and communities to respond to and prepare for the long-term impacts of climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Small	Medium	Short-term	Temporary	Low (beneficial)	Low	This extreme action is considered to have no direct impact on the historic environment, heritage assets and their settings. There is the potential for reduced consumer demand for water to result in reduced requirement for abstraction at source, potentially reducing the magnitude of any drought-related archaeology and cultural heritage impacts.	None	Negligible beneficial
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, landscape character and visual amenity.	Small	Medium	Short-term	Temporary	Low (beneficial)	Low	This extreme is considered to have no direct impact on landscape and visual amenity or any changes to access to the countryside or open space. There is the potential for reduced consumer demand for water to result in reduced requirement for abstraction at source, potentially reducing the magnitude of any drought-related landscape or visual impacts.	None	Negligible beneficial

Drought Plan Action:	Tariffs
Description	Tariff measures use enhanced seasonal pricing and incentives, such as discounted tariffs for lower consumption, to encourage customers to reduce their water use during drought. By shifting behaviour through financial signals and wordof-mouth influence, this approach can reduce peak demand and create lasting changes in water-use habits.
	Volumetric benefit: Minor

SEA topics and objectives		Assessment of Drought Action								
Topic	Objective	Scale of effect: geographical &/or population affected (Small/Medium/Large)	Certainty of effect (Low/Medium/High)	Duration of effect (Short-term/Medium-term/Long-term)	Permanence of effect (Permanent/Temporary)	Magnitude of effect (Low/Medium/High)	Value/ sensitivity of receptor (Low/Medium/High)	Residual effect on sensitive receptors (assuming good practice construction methods) Commentary (construction and operation)	Residual adverse effect significance (likely to remain after reasonable mitigation)	Residual beneficial effect significance (likely to remain after reasonable mitigation)
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species), enhance ecosystem resilience and habitat connectivity.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	Tariffs as an extreme demand action are not expected to adversely impact biodiversity, flora, or fauna. However, it is acknowledged that reduced consumer demand for water as a result of this action will lead to a decreased need for abstraction from Anglian Water's sources, potentially resulting in beneficial impacts on flow levels, and benefiting sensitive habitats and species.	None	Minor beneficial
Biodiversity, flora and fauna	1.2 To protect and enhance sustainable natural resources and the ecosystem services they provide and deliver a biodiversity net gain.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	Tariffs are considered to have no adverse impact on natural resources or ecosystem services. It is acknowledged that reduced consumer demand for water will result in reduced requirement for abstraction from Anglian Water's sources and, therefore, potential for beneficial impacts to support natural resources and ecosystem services. The Biodiversity Net Gain (BNG) policy does not apply to projects where no groundworks, site clearance, or construction footprint will occur, and where there is no physical intervention that could impact existing habitats.	None	Minor beneficial
Biodiversity, flora and fauna	1.3 To avoid introducing or spreading INNS.	n/a	n/a	n/a	n/a	n/a	n/a	Tariffs are likely to have no impact on avoiding the introduction or spreading of INNS.	None	None
Biodiversity, flora and fauna	1.4 To meet WFD objectives relating to biodiversity.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	This action will reduce the need for water abstraction from Anglian Water's sources during drought periods, easing pressure on aquatic ecosystems. This will help maintain natural flow levels, prevent further ecological degradation, and support the resilience of habitats and species.	None	Minor beneficial
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Medium	Medium	Short-term	Temporary	Low (beneficial) Medium (adverse)	Medium	This action will encourage responsible water use and water savings, which will contribute towards improving the security of supply of water in the Anglian Water supply region by discouraging high water use in dry months, when supplies are more limited and encouraging behaviour change. However, tariffs may disproportionately impact vulnerable or low-income households, especially those with high essential water needs (e.g., medical use, larger families), potentially increasing stress and affecting well-being. Additionally, during a severe drought there is a heightened risk that tariffs could be raised too high, leaving some customers unable to pay.	Moderate adverse	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Medium	Low	Short-term	Temporary	Medium (adverse)	Medium	In a severe drought scenario, recreational water use is unlikely to continue. The use of tariffs at this level would enhance existing tariffs which already discourage non-essential use and provide lower tariffs to those who waste less water. The use of recreational features, particularly those that rely heavily on water, may decrease. Water-dependent recreational facilities such as waterparks may pass on increased operational costs to visitors, potentially making them less accessible and adversely affecting tourism and recreation in the region. Additionally, these tariffs may disproportionately impact low-income households, limiting their ability to participate in informal outdoor activities such as gardening, playing in paddling pools, or enjoying green spaces.	Moderate adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Medium	Medium	Short-term	Temporary	Medium (adverse)	Medium (adverse)	At higher drought levels, cumulative tariff increases may lead to more significant economic impacts for businesses that rely directly or indirectly on water use. Higher operational costs may require some businesses, particularly smaller enterprises with limited financial resilience, to reduce activity, adapt processes, or absorb sustained increases in expenditure. These effects are considered a moderate adverse impact, reflecting the stronger price signals required to reduce water demand during severe drought conditions	Moderate adverse	None
Material assets and resource use	3.1 To minimise waste, promote resource efficiency and move towards a circular economy.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	Tariffs are expected to reduce water demand across the region by encouraging more efficient use of existing water resources. These measures are not anticipated to generate any significant waste.	None	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	Medium	Medium	Short-term	Temporary	Medium (adverse) Low (beneficial)	Low (adverse) Medium (beneficial)	Enhancing existing tariffs may raise concerns around affordability and equitable access, particularly for vulnerable households during peak demand periods. However, incentivising lower water usage could mitigate these risks. The scheme may help promote water efficiency without disproportionately disadvantaging certain groups. It may also encourage more water to be used during off peak periods. Overall, a minor adverse effect is anticipated, with potential for minor beneficial outcomes depending on scheme design and implementation.	Minor adverse	Minor beneficial
Water	4.1 To maintain or improve the quality of surface and groundwater resources.	Medium	Low	Short-term	Temporary	Low (beneficial)	Medium	Reductions in demand for water would result in reduced requirement for abstraction at source, reducing the risk of associated impacts on surface water quality in severe drought conditions.	None	Minor beneficial
Water	4.2 To protect and enhance surface and groundwater levels and flows.	Medium	Low	Short-term	Temporary	Low (beneficial)	Medium	Reduction in demand for water will result in reduced requirement for abstraction from Anglian Water's sources, reducing the impacts on water levels and river flows in severe drought conditions.	None	Minor beneficial
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources, including contributing to the achievement of WFD compliance objectives.	Medium	Low	Short-term	Temporary	Low (beneficial)	Medium	Reduction in demand for water will result in reduced requirement for abstraction from Anglian Water's sources, helping provide some protection for water-dependent ecosystems.	None	Minor beneficial
Water	4.4 To promote water efficiency and actions that enable sustainable water use.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	This action would contribute to sustainable water use, acknowledging that reduced consumer demand for water will result in reduced requirement for abstraction at source.	None	Minor beneficial
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and protect and enhance geodiversity and ensure appropriate and efficient use of land.	n/a	n/a	n/a	n/a	n/a	n/a	No impacts on geology, geomorphology and quality/quantity of soils are anticipated as a result of this action.	None	None
Air and Climate	6.1 To maintain and improve air quality.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Low	A reduction water use is anticipated to generate energy savings (decreased emissions associated with decreased need for water treatment and pumping), which may lead to a small improvement in air quality.	None	Negligible beneficial
Air and climate	6.2 To reduce greenhouse gas emissions.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Low	Tariffs may reduce water consumption, which in turn reduces energy use in abstraction, treatment, and pumping. Lower energy demand leads to a reduction in greenhouse gas emissions associated with the water supply system.	None	Negligible beneficial
Air and climate	6.3 To consider the need for adaptive actions for climate change.	Medium	High	Short-term	Temporary	Low (beneficial)	Medium	Tariffs are short-term drought responses which also serve as practical steps toward longer-term climate adaptation by influencing water use behaviour, improving system flexibility, and enhancing resilience.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Low	Tariffs are considered to have no direct impact on the historic environment, heritage assets and their settings and archaeologically important sites. There is the potential for reduced consumer demand for water to result in reduced requirement for abstraction at Anglian Water's sources, potentially reducing any impacts of drought-related effects on archaeology and cultural heritage assets.	None	Negligible beneficial
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, landscape character and visual amenity.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Low	Tariffs are considered to have no direct impact on landscape and visual amenity or any changes to access to the countryside or open space. There is the potential for reduced consumer demand for water to result in reduced requirement for abstraction at Anglian Water's sources, potentially reducing any impacts of drought-related landscape or visual impacts.	None	Negligible beneficial

Drought Plan Action:	Extreme Pressure Management
Description	Extreme pressure management reduces demand by lowering network pressures to the lowest safe operational level, cutting background leakage, reducing customer consumption, and improving ~~short~~ burst performance. It provides a controlled, remotely managed alternative to rota cuts while also reducing discolouration risks associated with higher pressures. Volumetric benefit: Minor

SEA topics and objectives		Assessment of Drought Action								
Topic	Objective	Scale of effect: geographical &/or population affected (Small/Medium/Large)	Certainty of effect (Low/Medium/High)	Duration of effect (Short-term/Medium-term/Long-term)	Permanence of effect (Permanent/ Temporary)	Magnitude of effect (Low/Medium/High)	Value/ sensitivity of receptor (Low/Medium/High)	Residual effect on sensitive receptors (assuming good practice construction methods) Commentary (construction and operation)	Residual adverse effect significance (likely to remain after reasonable mitigation)	Residual beneficial effect significance (likely to remain after reasonable mitigation)
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species), enhance ecosystem resilience and habitat connectivity.	Small	High	Short-term	Temporary (adverse) Permanent (beneficial)	Low (adverse) Low (beneficial)	Medium	Pressure Reducing Valves (PRVs) are permanent installations used to control and manage water pressure in targeted areas. When installation required, local site preparation will involve excavation to access the pipes, fitting the valves into the pipeline, and subsequent site restoration. Although specific installation locations have yet to be determined, minor adverse effects from temporary disturbance during groundworks are anticipated due to the potential proximity of sites to designated areas, priority habitats, or protected species. It is anticipated that these effects be limited to existing pipeline routes and infrastructure, minimising disturbance. Therefore, best practice measures will be essential during construction to minimise disturbance. During operation, minor beneficial effects are expected through reduced water loss from unnecessary consumption. This reduction in demand decreases abstraction from natural water sources, potentially providing secondary benefits for biodiversity, ecosystems, and the wider natural environment.	Minor adverse	Minor beneficial
Biodiversity, flora and fauna	1.2 To protect and enhance sustainable natural resources and the ecosystem services they provide and deliver a biodiversity net gain.	Small	Medium	Short-term	Temporary (adverse) Permanent (beneficial)	Low (adverse) Low (beneficial)	Medium	Installation of PRVs may cause temporary disturbance to local habitats. It is anticipated that these effects will be limited to existing pipeline route and infrastructure, minimising disturbance. These adverse effects can be mitigated through best practice construction techniques. Additionally, increased pressure management may also alter flow velocities, which can disturb sediments or stagnation zones, so operators will need to monitor and manage associated water quality risks such as discolouration, microbial growth, and chlorine decay. With best practise construction and monitoring, minor adverse effects are anticipated. Reduced consumer water demand associated with PRVs will lessen the need for abstraction from Anglian Water's sources. This reduction may have beneficial effects by supporting natural resources and enhancing ecosystem services. There is also potential for beneficial opportunities such as compensatory planting and habitat enhancement, leading to minor beneficial effects.	Minor adverse	Minor beneficial
Biodiversity, flora and fauna	1.3 To avoid introducing or spreading INNS.	Small	Low	Short-term	Temporary	Low (adverse)	Low	There is potential for the spread of INNS during the construction phase, although the extent of this risk remains uncertain. However, adverse effects can be minimised through best practice construction techniques, so only negligible adverse effects are anticipated. No additional risk of INNS spread is expected during the operational phase.	Negligible adverse	None
Biodiversity, flora and fauna	1.4 To meet WFD objectives relating to biodiversity.	Small	Medium	Long-term	Permanent	Medium (beneficial)	Medium	Increased pressure management in an extreme drought scenario will encourage further water savings and reduce the need for water abstraction from Anglian Water's sources, easing pressure on aquatic ecosystems. This will help maintain natural flow levels, prevent further ecological degradation, and support the resilience of habitats and species.	None	Moderate beneficial
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Medium	Low	Short-term	Temporary (adverse) Permanent (beneficial)	Low (adverse) Low (beneficial)	Low (adverse) Medium (beneficial)	Specific installation locations have yet to be determined. Nevertheless, during construction, there may be some temporary dust, noise and vibration effects and localised increases in traffic, but it is anticipated that this 10:11 savings which will contribute towards improving the security of water supply for businesses in the region, therefore protecting the local economy. However, reduced pressure may have adverse effects on water dependant businesses due to delays in providing services which rely on specific volumes or pressure of water e.g. non-domestic swimming pools, car/window washing businesses. Increased pressure management will result in further localised water savings which will contribute towards further improving the security of supply for customers in Anglian Water's supply region.	Negligible adverse	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Low	Short-term	Temporary	Low (adverse)	Low	Construction activities associated with pressure optimisation may result in temporary disturbance or disruption effects associated with traffic and noise. However, these will be short-term and localised and assuming best practice construction methods, effects will be minimal. It is assumed that public rights of way will be maintained during repair activities and there will be no effects on recreational opportunity. Reduced pressure may have adverse effects on water dependant recreational activities due to delays e.g. filling swimming pools and ponds, however these are assessed as negligible.	Negligible adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Medium	Medium	Short-term	Permanent	Medium (adverse) Low (beneficial)	Medium	There may be temporary disruptions of services or access/disturbance during the installation phase. The scheme may provide short-term local employment opportunities during the installation phase and stimulate local procurement. Extreme pressure management will result in further water savings which will contribute towards further improving the security of water supply for businesses in the region, therefore protecting the local economy. However, reduced pressure may have adverse effects on water dependant businesses due to delays in providing services which rely on specific volumes or pressure of water e.g. non-domestic swimming pools, car/window washing businesses. Lower pressures can also impair hydrant performance, potentially affecting firefighting capability. Coordination with local Fire and Rescue Services is required under statutory duties. Additionally, key services and vulnerable customers may rely on higher or stable pressures for operational or medical equipment. Pressure reductions may disrupt critical functions unless exemptions or alternative supply arrangements are in place.	Moderate adverse	Minor beneficial
Material assets and resource use	3.1 To minimise waste, promote resource efficiency and move towards a circular economy.	Small	High	Short-term	Temporary (adverse) Permanent (beneficial)	Low (adverse) Low (beneficial)	Medium (adverse) Low (beneficial)	The action will utilise existing infrastructure where possible. Installing PRVs may involve cutting and modifying existing pipes, with new pipework or fittings added as needed to connect the valves. Limited waste generation is anticipated which would be managed in accordance with standard construction waste protocols. As Anglian Water already operates an established network of PRVs, the scale of any new installations or enhancements is expected to be limited. As a result, only minor adverse effects are anticipated.	Minor adverse	Negligible beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	Medium	Medium	Long-term	Permanent	Low (adverse) Low (beneficial)	Low (adverse) Medium (beneficial)	Extreme pressure management will promote efficient water resource management and sustainable management of natural resources. It is noted that sudden or sustained pressure changes can stress ageing pipework, increasing the risk of bursts, joint failures, or pressurised asset deterioration later on and that pressure management can disrupt network monitoring by altering flow and pressure profiles, making it harder to interpret leakage data, demand patterns, or asset performance. In an extreme drought scenario where pressure reductions are intensified, it is important that operators are aware of these risks and that effective monitoring is in place to manage them; under these conditions, only negligible adverse effects on the sustainable management of natural resources are anticipated.	Negligible adverse	Minor beneficial
Water	4.1 To maintain or improve the quality of surface and groundwater resources.	Medium	Medium	Long-term	Permanent	Low (beneficial)	Medium	PRVs are permanent fixtures and therefore pressure management could act to reduce demand (and therefore abstraction requirements) over the long term, which could have some minor beneficial secondary effects for both groundwater and surface water quality.	None	Minor beneficial
Water	4.2 To protect and enhance surface and groundwater levels and flows.	Medium	Medium	Long-term	Permanent	Low (beneficial)	Medium	PRVs are a permanent fixture and as such could act to reduce demand (and therefore abstraction requirements) over the long term, which could have some minor beneficial secondary effects for river flows and groundwater resources.	None	Minor beneficial
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources, including contributing to the achievement of WFD compliance objectives.	Medium	High	Long-term	Permanent	Low (beneficial)	Medium	Reduction in demand for water will result in a reduced requirement for abstraction from Anglian Water's sources, helping provide some protection for water-dependent ecosystems.	None	Minor beneficial
Water	4.4 To promote water efficiency and actions that enable sustainable water use.	Medium	Medium	Medium to Long-term	Permanent	Low (beneficial)	Medium	The installation of PRVs during periods of extreme drought supports water efficiency objectives by lowering leakage and reducing unnecessary consumption. Effective pressure management also improves network resilience and contributes to the sustainable use of limited water resources.	None	Minor beneficial
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and protect and enhance geodiversity and ensure appropriate and efficient use of land.	Small	High	Short-term	Temporary	Low (adverse)	Low	The installation or enhancement of PRVs will require groundworks including excavation leading to some localised disturbance to soils, geology, and land use. These activities will be limited to existing pipeline routes and infrastructure, minimising the extent of disruption.	Negligible adverse	None
Air and Climate	6.1 To maintain and improve air quality.	Small	Low	Short-term	Temporary	Low (adverse)	Medium	Limited groundworks and excavation will be required along existing pipeline routes, which may cause temporary dust emissions and effects on local receptors. Vehicle trips necessary for PRV installation and enhancement will cause emissions affecting local air quality, including some within Air Quality Management Areas (AQMAs) in Anglian Water's supply area.	Minor adverse	None
Air and climate	6.2 To reduce greenhouse gas emissions.	Medium	Medium	Short-term (adverse) Long-term (beneficial)	Temporary (adverse) Permanent (beneficial)	Low (beneficial) Low (adverse)	Medium	Vehicle trips necessary for PRV installation and enhancement will cause greenhouse gas emissions. Extreme pressure management will result in reduced water loss from leaks and unnecessary consumption, leading to long-term associated energy savings (decreased greenhouse gas emissions associated with decreased need for water treatment and pumping).	Minor adverse	Minor beneficial
Air and climate	6.3 To consider the need for adaptive actions for climate change	Small	High	Long-term	Permanent	Low (beneficial)	Medium	Demand management actions are a key component of Anglian Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought, which may become more prevalent due to climate change. Extreme pressure management is a scalable adaptive action that will build resilience in Anglian Water's supply systems.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Small	Medium	Short-term	Temporary (adverse) Permanent (beneficial)	Low (adverse) Low (beneficial)	Low	The setting of any surrounding heritage assets may be effected for the short-term during installation, however, this is considered to be negligible. There is the potential for reduced consumer demand and abstraction at source, potentially reducing the magnitude of any drought-related archaeology and cultural heritage effects.	Negligible adverse	Negligible beneficial
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, landscape character and visual amenity.	Small	Medium	Short-term	Temporary (adverse) Permanent (beneficial)	Low (adverse) Low (beneficial)	Low	Some limited short-term effects on visual amenity are anticipated during installation. However, as the installation and enhancement of PRVs does not involve any new above-ground structures, no operational visual effects are expected. A reduction in consumer water demand could lower the need for water abstraction at the source, potentially lessening the severity of any drought-related landscape or visual effects.	Negligible adverse	Negligible beneficial

Drought Plan Action:	Extreme Targeted Leakage Reduction
Description	Extreme targeted leakage reduction intensifies leakage management using the P.A.L.M. approach (Prevent, Awareness, Locate and Mend) to cut water losses by accelerating detection, repair, and proactive maintenance. By increasing resources, improving asset monitoring, and fixing customer-side leaks even outside normal remit, this action reduces demand and helps maintain supply resilience during severe drought. Volumetric benefit: Minor

SEA topics and objectives		Assessment of Drought Action								
Topic	Objective	Scale of effect: geographical &/or population affected (Small/Medium/Large)	Certainty of effect (Low/Medium/High)	Duration of effect (Short-term/Medium-term/Long-term)	Permanence of effect (Permanent/Temporary)	Magnitude of effect (Low/Medium/High)	Value/ sensitivity of receptor (Low/Medium/High)	Residual effect on sensitive receptors (assuming good practice construction methods) Commentary (construction and operation)	Residual adverse effect significance (likely to remain after reasonable mitigation)	Residual beneficial effect significance (likely to remain after reasonable mitigation)
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species), enhance ecosystem resilience and habitat connectivity.	Medium	Medium	Short-term (adverse) Long-term (beneficial)	Temporary (adverse) Permanent (beneficial)	Low (adverse) Low (beneficial)	Low (adverse) Medium (beneficial)	A ramping up of targeted leakage reduction would see minor to moderate construction activities which may result in temporary disturbance to local habitats and species during the works. Excavations may cause brief, localised disturbance to habitats and species through vegetation removal, noise, and ground disruption, but these effects are minor and reversible with good practice. The majority of works are anticipated to be in an urban setting. Assuming good practice construction methods, impacts of the construction phase are anticipated to be negligible. The reduction in water lost through leakage will result in a reduced requirement for abstraction at source and therefore, there is potential for beneficial impacts on flow and sensitive habitats/species.	Negligible adverse	Minor beneficial
Biodiversity, flora and fauna	1.2 To protect and enhance sustainable natural resources and the ecosystem services they provide and deliver a biodiversity net gain.	Medium	Medium	Short-term (adverse) Long-term (beneficial)	Temporary (adverse) Permanent (beneficial)	Low (adverse) Low (beneficial)	Low (adverse) Medium (beneficial)	A ramping up of targeted leakage reduction would see minor to moderate construction activities which may have minor adverse effects on some local habitats. However, as these works are expected to occur primarily in urban areas, and include the implementation of good practice construction methods, any impacts during the construction phase are anticipated to be negligible. It is recognised that reduced consumer demand for water will lessen the need for abstraction from Anglian Water's sources. This may result in beneficial effects by supporting natural resources and enhancing ecosystem services.	Negligible adverse	Minor beneficial
Biodiversity, flora and fauna	1.3 To avoid introducing or spreading INNS.	Medium	Medium	Short-term (adverse) Long-term (beneficial)	Temporary (adverse) Permanent (beneficial)	Low (adverse)	Low	Targeted leakage reduction activities may have a minor effect on the spread of INNS through limited vehicle and equipment movement and ground disturbance. Appropriate biosecurity measures should be implemented.	Negligible adverse	None
Biodiversity, flora and fauna	1.4 To meet WFD objectives relating to biodiversity.	Medium	Medium	Long-term	Permanent	Low (beneficial)	Medium	Leakage reduction will enable water savings and reduce the need for water abstraction from Anglian Water's sources, easing pressure on aquatic ecosystems. This will help maintain natural flow levels, prevent further ecological degradation, and support the resilience of habitats and species.	None	Minor beneficial
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Large	Medium	Short-term (adverse) Long-term (beneficial)	Temporary (adverse) Permanent (beneficial)	Medium (adverse) Low (beneficial)	Medium	The reduction in water lost will help to ensure levels of service are maintained through enabling provision of water that would have otherwise been lost to leakage. However, increasing the effort required to detect and repair leaks leads to higher operational costs. These costs may be passed on to customers through increased average bills, which could disproportionately affect cost-sensitive households. Scaling up this effort would further increase costs, thereby potentially worsening inequality impacts.	Moderate adverse	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Medium	Low	Short-term (adverse) Long-term (beneficial)	Temporary (adverse) Permanent (beneficial)	Low (adverse) Low (beneficial)	Low (adverse) Medium (beneficial)	Construction activities associated with leakage detection and repair activities may result in temporary nuisance effects associated with traffic and noise. However, these will be short term at any one location (likely to be urban) and assuming best practice construction methods, effects will be minimal. It is assumed that public rights of way will be maintained during repair activities and there will be no effects on recreational opportunity. Leakage reduction may support and improve river flows and associated recreational activities in the long term.	Negligible adverse	Minor beneficial
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Medium	Medium	Long-term	Permanent	Low (beneficial)	Medium	This drought action will help to maintain water supply reliability , supporting a resilient water supply for both customers and economic activity.	None	Minor beneficial
Material assets and resource use	3.1 To minimise waste, promote resource efficiency and move towards a circular economy.	Medium	High	Short-term (adverse) Long-term (beneficial)	Permanent	Low (adverse) Medium (beneficial)	Low	A ramping up of targeted leakage reduction using P.A.L.M. will reduce water loss within the supply network, leading to lower energy and chemical use associated with water treatment and distribution. The intervention will make use of existing infrastructure, minimising the need for new construction. Where repairs require the use of raw materials, it is assumed these will be sourced locally to reduce transport impacts and support the local economy.	Negligible adverse	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	Medium	Medium	Long-term	Permanent	Medium (beneficial)	Medium	A ramping up of leakage reduction will actively promote efficient water resource management and sustainable management of natural resources.	None	Moderate beneficial
Water	4.1 To maintain or improve the quality of surface and groundwater resources.	Medium	Medium	Long-term (beneficial) Short-term (adverse)	Permanent (beneficial) Temporary (adverse)	Low (adverse) Low (beneficial)	Low	Construction activities associated with a ramping up of targeted leakage reduction activities may result in the potential for impacting local surface and groundwater quality. As it is being scaled, there is a potential that more construction and excavations could worsen the effects on surface and groundwater resources, however, assuming best practice construction methods, impacts of the construction phase are anticipated to be negligible. The reduction in water lost through leakage will result in reduced requirement for abstraction at source, and therefore also mitigate any surface water quality effects associated with abstraction.	Negligible adverse	Negligible beneficial
Water	4.2 To protect and enhance surface and groundwater levels and flows.	Medium	Medium	Long-term	Permanent	Low (beneficial)	Medium	Leakage reduction will indirectly reduce the requirement for abstraction at source, improving and maintaining natural flow regimes.	None	Minor beneficial
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources, including contributing to the achievement of WFD compliance objectives.	Medium	Medium	Medium to Long-term	Permanent	Low (beneficial)	Medium	This action will have a beneficial effect on maintenance of water supplies through ensuring less water is lost in the network, which will consequently, protect the ecosystem functions that rely on water resources.	None	Minor beneficial
Water	4.4 To promote water efficiency and actions that enable sustainable water use.	Medium	Medium	Long-term	Permanent	Low (beneficial)	Medium	A ramping up of leakage reduction improves water efficiency in the short-term by ensuring less water is lost during an extreme drought and long term by preventing the unnecessary loss of water that has already been abstracted, treated, and pressurised. This enhances overall system efficiency by ensuring more of the water supplied reaches end-users.	None	Minor beneficial
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and protect and enhance geodiversity and ensure appropriate and efficient use of land.	Small	High	Short-term	Temporary	Low (adverse)	Low	Construction activities associated with leakage reduction activity and 'fix and find' approaches may result in localised disturbance to geology and land use. However, repair activity will take place on pipelines which are already in situ.	Negligible adverse	None
Air and Climate	6.1 To maintain and improve air quality.	Small	Low	Short-term	Temporary	Low (adverse)	Medium	Vehicle trips and limited works for leakage detection and repair will cause emissions affecting air quality, including some within Air Quality Management Areas in Anglian Water's supply area.	Minor adverse	None
Air and climate	6.2 To reduce greenhouse gas emissions.	Medium	Medium	Short-term (adverse) Long-term (beneficial)	Permanent (beneficial) Temporary (adverse)	Low (adverse) Low (beneficial)	Low (adverse) Medium (beneficial)	Vehicle trips and limited works for leakage detection and repair will cause emissions of greenhouse gas emissions. Leakage detection and repairs will result in the reduction of water lost in the supply network and long term energy savings associated with this reduction (decreased greenhouse gas emissions associated with decreased need for water treatment and pumping).	Minor adverse	Minor beneficial
Air and climate	6.3 To consider the need for adaptive actions for climate change.	Small	High	Long-term	Permanent	Low (beneficial)	Medium	Demand management actions are a key component of Anglian Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought which may become more prevalent due to climate change. Leakage reduction increases system resilience to more frequent and severe droughts by preserving water within the network.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	A ramping up of leakage reduction activity through P.A.L.M. approaches will take place on pipelines which are already in situ, and, as such, it is not anticipated that any sites of archaeological or cultural heritage importance will be affected. The setting of any surrounding heritage assets may be impacted for the short term, however, considering the action is an acceleration of ongoing leakage reduction activity this is considered to be negligible.	Negligible adverse	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, landscape character and visual amenity.	Small	Medium	Short-term (adverse) Long-term (beneficial)	Temporary	Low (adverse) Low (beneficial)	Low	The majority of works are anticipated to be in an urban setting. Assuming best practice construction methods, impacts of the construction phase are anticipated to be negligible. The scheme will have no direct effect on landscape and visual amenity in operation. It is acknowledged that reduced water loss due to leakage will result in reduced requirement for abstraction at source, potentially reducing any drought-related landscape or visual impacts. Beneficial effects on landscape and visual amenity are anticipated to be negligible.	Negligible adverse	Negligible beneficial

Drought Plan Action:	Removal of Exceptions
Description	The removal of exceptions eliminates all remaining allowances under Temporary Use Bans (TUBs) and Non-Essential Use Bans (NEUBs), tightening restrictions so that no customer or activity is exempt. This maximises demand reduction by further cutting water use beyond the savings already achieved through TUBs and NEUBs. This action does not operate within the limits of existing abstraction licences. Volumetric benefit: Moderate

SEA topics and objectives		Assessment of Drought Action							Residual adverse effect significance (likely to remain after reasonable mitigation)	Residual beneficial effect significance (likely to remain after reasonable mitigation)
Topic	Objective	Scale of effect: geographical &/or population affected (Small/Medium/Large)	Certainty of effect (Low/Medium/High)	Duration of effect (Short-term/Medium-term/Long-term)	Permanence of effect (Permanent/Temporary)	Magnitude of effect (Low/Medium/High)	Value/ sensitivity of receptor (Low/Medium/High)	Residual effect on sensitive receptors (assuming good practice construction methods) Commentary (construction and operation)		
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species), enhance ecosystem resilience and habitat connectivity.	Medium	Medium	Short-term	Temporary	Low (adverse) Medium (beneficial)	Medium	There are no groundworks or construction activities associated with this action. Removal of exceptions may adversely affect biodiversity, flora, or fauna, as green spaces (commercial gardens, golf courses) would no longer be exempt. However, it is acknowledged that this extreme action will further reduce consumer demand for water which will lead to a decreased need for abstraction from Anglian Water's sources, potentially resulting in indirect beneficial effects on flow levels, and benefiting sensitive habitats and species and supporting ecosystem resilience. .	Minor adverse	Moderate beneficial
Biodiversity, flora and fauna	1.2 To protect and enhance sustainable natural resources and the ecosystem services they provide and deliver a biodiversity net gain.	Medium	Medium	Short-term	Temporary	Medium (beneficial)	Medium	There are no groundworks or construction activities associated with this action. Removal of exceptions is considered to have no adverse effect on natural resources or ecosystem services. It is acknowledged that this extreme action will further reduce consumer demand for water which will lead to a decreased need for abstraction from Anglian Water's sources, potentially resulting in indirect beneficial effects on flow levels, and benefiting sensitive habitats and species and supporting ecosystem resilience. . The Biodiversity Net Gain (BNG) policy does not apply to projects where no groundworks, site clearance, or construction footprint will occur, and where there is no physical intervention that could impact existing habitats.	None	Moderate beneficial
Biodiversity, flora and fauna	1.3 To avoid introducing or spreading INNS.	n/a	n/a	n/a	n/a	n/a	n/a	The ban is unlikely to have any effect on the introduction or spread of INNS, as these are driven primarily by human-mediated pathways. While reduced abstraction will leave more water in river systems, this is not expected to influence INNS risk.	None	None
Biodiversity, flora and fauna	1.4 To meet WFD objectives relating to biodiversity.	Medium	Medium	Short-term	Temporary	Medium (beneficial)	Medium	This extreme action will further reduce the need for water abstraction from Anglian Water's sources, easing pressure on aquatic ecosystems. This will help maintain natural flow levels, prevent further ecological degradation, and support the resilience of habitats and species, in an extreme drought scenario.	None	Moderate beneficial
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Medium	High	Short-term	Temporary	Medium (adverse) Medium (beneficial)	Medium	Removal of exceptions will provide critical water savings which will contribute towards improving security of supply of water in the Anglian Water supply region. Drinking water quality will not be affected by the restrictions and since this action only tightens non-essential water use restrictions there will be no effect on essential water uses that are necessary to maintain public health and well-being of the population served by Anglian Water. Tightened restrictions on non-essential water uses may further reduce personal or community activities and may have a short-term effect on the standard of living.	Moderate adverse	Moderate beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Medium	Short-term	Temporary	High (adverse) Low (beneficial)	Medium	There may be potential for major effects upon recreational activities due to tightened restrictions on filling of swimming pools, watering of sports pitches, and green spaces. There may be moderate effects associated with the setting of tourist attractions, for example, water features and parks/gardens associated with popular tourist sites. Beneficial effects are associated with the potential for maintaining flow levels in watercourses to support recreational activities, and improving recreational amenity. However, in an extreme drought scenario it is unlikely that water courses will have the capacity to facilitate recreational activities.	Major adverse	Minor beneficial
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Medium	Medium	Short-term	Temporary	High (adverse) Medium (beneficial)	Medium	Removal of exceptions carries the risk of adverse economic effects on businesses that benefit directly or indirectly from certain water uses that would be prohibited under the ban (e.g. sports and leisure facilities, window cleaning). Potential mitigation could involve publicity and consultation with the affected businesses in the run up to and during the drought in order to effectively communicate these changes. This extreme action would safeguard water supplies for critical needs to maintain essential services during drought and would ensure economic sustainability during periods of drought.	Major adverse	Moderate beneficial
Material assets and resource use	3.1 To minimise waste, promote resource efficiency and move towards a circular economy.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	Removal of exceptions will reduce the demand for water in the region, improving the efficiency of existing water resource use. It will not result in any increase in the generation of waste.	None	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	Removal of exceptions will actively promote efficient water resource management and sustainable management of natural resources.	None	Minor beneficial
Water	4.1 To maintain or improve the quality of surface and groundwater resources.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	Reductions in demand for water would result in a reduced requirement for abstraction at source, reducing the risk of associated effects on surface water quality in drought conditions, maintaining the natural dilution capacity in surface waters and aquifer integrity.	None	Minor beneficial
Water	4.2 To protect and enhance surface and groundwater levels and flows.	Medium	Low	Short-term	Temporary	Low (beneficial)	Medium	This extreme action will not result in, or modify any abstraction (surface water or groundwater). Reduction in demand for water will result in a reduced requirement for abstraction from Anglian Water's sources, reducing the effects on water levels and river flows in drought conditions.	None	Minor beneficial
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources, including contributing to the achievement of WFD compliance objectives.	Medium	Low	Short-term	Temporary	Medium (beneficial)	Medium	Reduction in demand for water will result in reduced requirement for abstraction from Anglian Water's sources, helping provide some protection for water-dependent ecosystems.	None	Moderate beneficial
Water	4.4 To promote water efficiency and actions that enable sustainable water use.	Medium	Medium	Short-term	Temporary	Medium (beneficial)	Medium	This action will have a short-term beneficial effect on water, as reduced consumer demand for water will result in a reduced requirement for abstraction at source. Induced behaviour changes may have medium to long-term effects on consumer water usage.	None	Moderate beneficial
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and protect and enhance geodiversity and ensure appropriate and efficient use of land.	n/a	n/a	n/a	n/a	n/a	n/a	There are no groundworks or construction activities associated with this action. No effects on geology, geomorphology and quality/quantity of soils are anticipated as a result of the removal of exceptions.	None	None
Air and Climate	6.1 To maintain and improve air quality.	n/a	n/a	n/a	n/a	n/a	n/a	There are no construction activities associated with this action. No effects on air quality are anticipated as a result of the removal of exceptions.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	n/a	n/a	n/a	n/a	n/a	n/a	There are no construction activities associated with this action. It will not involve an increase in energy consumption or associated greenhouse gas emissions.	None	None
Air and climate	6.3 To consider the need for adaptive actions for climate change.	Small	High	Short-term	Temporary	Medium (beneficial)	Medium	Extreme demand management actions are a key component of Anglian Water's Drought Plan in a severe drought scenario. The Plan aims to ensure resilience of water supplies to drought which may become more prevalent due to climate change. Removal of exceptions from TUBs and NEUBs is an adaptive action that supports effective water resource management, helping to reduce pressure on vulnerable water sources and infrastructure during periods of low-flow, including those influenced by climate variability and climate change.	None	Moderate beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Medium	Low	Short-term	Temporary	Low (adverse) Low (beneficial)	Low	There may be minor adverse effects associated with the setting of some heritage assets, for example, visual effects on registered parks and gardens and /or the grounds of listed buildings due to restrictions on the use of water. Notwithstanding these effects, the ban is considered unlikely to have any direct effect on the historic environment, heritage assets and archaeologically important sites. There is the potential for reduced consumer demand for water to result in reduced requirement for abstraction at Anglian Water's sources, potentially reducing the magnitude of any drought-related effects on archaeology and cultural heritage assets.	Negligible adverse	Negligible beneficial
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, landscape character and visual amenity.	Medium	Low	Short-term	Temporary	Low (adverse) Low (beneficial)	Low	There may be some localised adverse effects on townscapes and the setting of some visual amenities due to the ban on watering of gardens and grounds, and removal of exceptions. However, the ban is considered to have no direct effect on landscape and visual amenity or any changes to access to the countryside or open space. There is the potential for reduced consumer demand for water to result in reduced requirement for abstraction from Anglian Water's sources, potentially reducing the magnitude of any drought-related effects on landscape or visual amenity.	Negligible adverse	Negligible beneficial

Drought Plan Action:	Groundwater - Lower borehole pumps or increase size of borehole pump
Description	This action involves lowering existing borehole pumps or installing higher-capacity pumps to maintain water supply and sustain existing yields during periods of increased stress. All activities will operate within the limits of existing abstraction licences. Volumetric benefit: Minor

SEA topics and objectives		Assessment of Drought Action								
Topic	Objective	Scale of effect: geographical &/or population affected (Small/Medium/Large)	Certainty of effect (Low/Medium/High)	Duration of effect (Short-term/Medium-term/Long-term)	Permanence of effect (Permanent/Temporary)	Magnitude of effect (Low/Medium/High)	Value/ sensitivity of receptor (Low/Medium/High)	Residual effect on sensitive receptors (assuming good practice construction methods) Commentary (construction and operation)	Residual adverse effect significance (likely to remain after reasonable mitigation)	Residual beneficial effect significance (likely to remain after reasonable mitigation)
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species), enhance ecosystem resilience and habitat connectivity.	Small	Low	Short-term	Temporary	Low (adverse)	Low	This action may require minor construction works, including the removal, reinstatement, or replacement of existing pumps, extension or strengthening of the rising main, and modifications to borehole headworks. As the precise locations of these works are not yet confirmed, there is some uncertainty regarding the specific nature and extent of potential impacts. However, construction activity is expected to remain confined to existing infrastructure, thereby limiting disturbance. The use of best-practice construction methods is anticipated to further minimise any adverse effects. During operation, there is potential for localised changes in water quality, including short-term increases in certain chemical parameters associated with drawdown, which may affect groundwater-dependent habitats. However, all activities will operate within the limits of existing abstraction licences, which are designed to protect environmental thresholds. Therefore, any adverse effects are expected to be minimal, and the overall impact is assessed as negligible adverse.	Negligible adverse	None
Biodiversity, flora and fauna	1.2 To protect and enhance sustainable natural resources and the ecosystem services they provide and deliver a biodiversity net gain.	Small	Low	Short-term	Temporary	Low (adverse)	Low	Construction activities associated with this action are expected to be small in scale and short in duration. The use of best-practice construction methods will help minimise any adverse effects on natural resources and the ecosystem services they support. Minor works, such as pump replacement and modifications to rising mains and borehole headworks, will be confined to existing infrastructure sites, limiting the potential for disturbance. As the works would occur within established operational areas, there may be limited opportunity for Biodiversity Net Gain (BNG) to be delivered.	Negligible adverse	None
Biodiversity, flora and fauna	1.3 To avoid introducing or spreading INNS.	Small	Low	Short-term	Temporary	Low (adverse)	Low	This action presents a negligible risk of transferring or spreading INNS. All works are confined to closed groundwater infrastructure, including boreholes, rising mains, and pump headworks, with no movement of water between catchments. With standard biosecurity measures applied, any residual risk remains negligible.	Negligible adverse	None
Biodiversity, flora and fauna	1.4 To meet WFD objectives relating to biodiversity.	Small	Low	Short-term	Temporary	Low (adverse)	Low	Water abstraction can influence the amount of water available in the natural environment. During operation, localised shifts in water quality may occur, including short-term increases in certain chemical parameters linked to drawdown, which could affect groundwater-dependent habitats. However, as the action is temporary and will operate within the limits of existing abstraction licences, which are designed to protect environmental thresholds, any effects are expected to be negligible.	Negligible adverse	None
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Large	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Low (adverse) Medium (beneficial)	Temporary, minor impacts from noise, dust, and vibration may arise during the construction phase. Although these activities are expected to be small in scale and of short duration, there is some uncertainty regarding the extent and significance of potential effects due to the unknown locations of construction, particularly in relation to Air Quality Management Areas (AQMAs), Noise Important Areas, or nearby residential receptors. These impacts will be minimised through the use of best practice construction methods. This action will contribute to maintaining a resilient water supply during drought conditions, supporting customer needs.	Negligible adverse	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Low	Short-term	Temporary	Low (adverse)	Low	The scale of these works is expected to be minor and contained within the existing infrastructure, resulting in limited effects on recreational receptors. Any effects would be minimised as far as practicable through the application of best-practice construction methods. As the precise construction locations are not yet confirmed, some uncertainty remains regarding the extent and nature of these impacts. Once operational, this action will support the maintenance of water supply. However, as it is intended to provide supply benefits before a Level of Service (LoS) 4 trigger is reached, it is unlikely that the abstracted water would be used to facilitate recreational activities.	Negligible adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Small	Medium	Short-term	Temporary	Low (beneficial)	Medium	Minor works are unlikely to disrupt economic activities. Implementation of the drought action will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Minor beneficial
Material assets and resource use	3.1 To minimise waste, promote resource efficiency and move towards a circular economy.	Small	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Low (adverse) Medium (beneficial)	Minor works may generate waste. This action will require the use of new materials and may generate minimal construction waste, such as packaging, during the construction phase. All waste will be managed in accordance with standard construction waste protocols. The action aims to be resource-efficient by utilising existing infrastructure where possible. During operation, only small quantities of materials may be needed for routine maintenance, repairs, and monitoring.	Negligible adverse	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	Small	Medium	Short-term	Temporary	Low (beneficial)	Medium	This drought action would enhance the efficiency of water resource management to support the maintenance of essential public water supplies during drought conditions.	None	Minor beneficial
Water	4.1 To maintain or improve the quality of surface and groundwater resources.	Small	Low	Short-term	Temporary	Low (adverse)	Low	Any construction-related activities would be undertaken in line with best-practice construction methods, and as such, no significant effects on water quality are anticipated during this phase. During operation, there is potential for localised changes in water quality and turbidity, including short-term increases in certain chemical parameters associated with drawdown. However, abstraction would remain within licensed limits, which are designed to protect environmental thresholds, and be subject to prior investigation.	Negligible adverse	None
Water	4.2 To protect and enhance surface and groundwater levels and flows.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	During operation, there is potential for localised changes in groundwater levels from increased drawdown. However, abstraction would remain within licensed limits and be subject to prior investigation.	Negligible adverse	None
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources, including contributing to the achievement of WFD compliance objectives.	Small	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Low (adverse) Medium (beneficial)	Any abstractions at the source would be within existing licence permissions. Therefore, it is not expected to result in additional pressure on groundwater resources compared to the baseline. The drought action will be managed within licensed volumes, and operational controls will be in place to avoid adverse effects on sensitive water-dependent ecosystems. This approach supports the sustainable management of water resources	Negligible adverse	Minor beneficial
Water	4.4 To promote water efficiency and actions that enable sustainable water use.	Small	Medium	Short-term	Temporary	Low (beneficial)	Low	While the action does not improve efficiency directly, it is part of a broader drought response promoting efficient water use.	None	Negligible beneficial
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and protect and enhance geodiversity and ensure appropriate and efficient use of land.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	Some construction may be required, involving groundworks, such as removal, reinstatement, or replacement of existing pumps, extension or strengthening of the rising main, and modifications to borehole headworks. Minor works may disturb soils locally. The use of existing infrastructure will promote efficient land use, and standard soil management practices will be implemented to minimise disturbance.	Negligible adverse	None
Air and Climate	6.1 To maintain and improve air quality.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	Minor adverse effects on air quality may arise from vehicle movements and machinery use during the construction phase. These impacts could be more pronounced in areas already sensitive to air quality. As specific locations have not yet been identified, the magnitude of potential effects remains uncertain. However, given the small-scale nature of the anticipated works and the application of best practice construction methods, any adverse impacts are expected to be negligible.	Negligible adverse	None
Air and climate	6.2 To reduce greenhouse gas emissions.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	The construction phase is expected to result in a temporary increase in greenhouse gas emissions due to the use of vehicles and machinery. However, as the works are minor and largely confined to existing infrastructure, embodied emissions are anticipated to be minimal and likely negligible. During operation, energy demand may increase due to higher-capacity pumps. However, the overall impact remains uncertain, and considering the minor volumetric benefit expected, the rise in greenhouse gas emissions is expected to be minimal.	Negligible adverse	None
Air and climate	6.3 To consider the need for adaptive actions for climate change.	Small	Medium	Short-term	Temporary	Low (beneficial)	Medium	The drought action allows Anglian Water to diversify its water sources under drought conditions. Although this drought action does not change the capacity of the existing Anglian Water network, it will enhance reliability and drought resilience in the region.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	Construction activities will be minor, such as pump installation, and typically occur within existing infrastructure sites. These minor works are unlikely to affect heritage assets.	Negligible adverse	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, landscape character and visual amenity.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	Temporary effects on the local landscape may occur during the construction phase. However, as construction activities are minor and short-term, these impacts are considered minimal. The exact locations of construction sites are not yet confirmed and could be within designated or non-designated landscapes, including National Parks and National Landscapes. Any visual or landscape impacts are expected to be temporary. Minor works unlikely to affect landscape character.	Negligible adverse	None

Drought Plan Action:	Groundwater - Increase borehole depth
Description	This action involves increasing borehole depth to maintain water supply and sustain existing yields during periods of increased stress. All activities will operate within the limits of existing abstraction licences. Volumetric benefit: Negligible

SEA topics and objectives		Assessment of Drought Action									Residual adverse effect significance (likely to remain after reasonable mitigation)	Residual beneficial effect significance (likely to remain after reasonable mitigation)
Topic	Objective	Scale of effect: geographical &/or population affected (Small/Medium/Large)	Certainty of effect (Low/Medium/High)	Duration of effect (Short-term/Medium-term/Long-term)	Permanence of effect (Permanent/Temporary)	Magnitude of effect (Low/Medium/High)	Value/ sensitivity of receptor (Low/Medium/High)	Residual effect on sensitive receptors (assuming good practice construction methods) (construction and operation)	Commentary			
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species), enhance ecosystem resilience and habitat connectivity.	Small	Low	Short-term	Temporary	Low (adverse)	Low	This action may require minor to moderate construction works, including drilling deeper into the aquifer and new installations of casing, screens etc. As the precise locations of these works are not yet confirmed, there is some uncertainty regarding the specific nature and extent of potential impacts. However, construction activity is expected to remain confined to existing infrastructure, thereby limiting disturbance. The use of best -practice construction methods is anticipated to further minimise any adverse effects. During operation, there is potential for localised changes in water quality, including short -term increases in certain chemical parameters associated with drawdown, which may affect groundwater -dependent habitats. However, all activities will operate within the limits of existing abstraction licences, which are designed to protect environmental thresholds. Therefore, any adverse effects are expected to be minimal, and the overall impact is assessed as negligible adverse.	Negligible adverse	None		
Biodiversity, flora and fauna	1.2 To protect and enhance sustainable natural resources and the ecosystem services they provide and deliver a biodiversity net gain.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	Construction activities associated with this action are expected to be small in scale and short in duration. The use of best-practice construction methods will help minimise any adverse effects on natural resources and the ecosystem services they support. Works, such as drilling deeper into the aquifer and new installations of casing, screens etc, will be confined to existing infrastructure sites, limiting the potential for disturbance. As the works occur within established operational areas, there is no opportunity for Biodiversity Net Gain (BNG) to be delivered. A Biodiversity Net Gain (BNG) assessment has not been undertaken at this stage.	Negligible adverse	None		
Biodiversity, flora and fauna	1.3 To avoid introducing or spreading INNS.	Small	Low	Short-term	Temporary	Low (adverse)	Low	This action presents a negligible risk of transferring or spreading INNS. All works are confined to closed groundwater infrastructure, with no movement of water between catchments. With standard biosecurity measures applied, any residual risk remains very low.	Negligible adverse	None		
Biodiversity, flora and fauna	1.4 To meet WFD objectives relating to biodiversity.	Small	Low	Short-term	Temporary	Low (adverse)	Low	Water abstraction can influence the amount of water available in the natural environment. During operation, localised shifts in water quality, including short -term increases in certain chemical parameters linked to drawdown, which could affect groundwater -dependent habitats. However, as the action is temporary and will operate within the limits of existing abstraction licences, which are designed to protect environmental thresholds, any effects are expected to be negligible.	Negligible adverse	None		
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Large	Low	Short-term	Temporary	Low (beneficial) Low (adverse)	Low	Temporary, minor impacts from noise, dust, and vibration may arise during the construction phase. Although these activities are expected to be small in scale and of short duration, there is some uncertainty regarding the extent and significance of potential effects due to the unknown locations of construction, particularly in relation to Air Quality Management Areas (AQMAs), Noise Important Areas, or nearby residential receptors. These impacts will be minimised through the use of best practice construction methods. This action will contribute to maintaining a resilient water supply during drought conditions, supporting customer needs, however, this is expected to be negligible due to the action's minimal volumetric benefit.	Negligible adverse	Negligible beneficial		
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Low	Short-term	Temporary	Low (adverse)	Low	The scale of these works is expected to be minor and contained within the existing infrastructure, resulting in limited effects on recreational receptors. Any effects would be minimised as far as practicable through the application of best-practice construction methods. As the precise construction locations are not yet confirmed, some uncertainty remains regarding the extent and nature of these impacts. Once operational, this action will support the maintenance of water supply. However, as it is intended to provide supply benefits before a Level of Service (LoS) 4 trigger is reached, it is unlikely that the abstracted water would be used to facilitate recreational activities.	Negligible adverse	None		
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Small	Medium	Short-term	Temporary	Low (beneficial)	Low	Minor works are unlikely to disrupt economic activities. Implementation of the drought action will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity, although expected to be negligible.	None	Negligible beneficial		
Material assets and resource use	3.1 To minimise waste, promote resource efficiency and move towards a circular economy.	Small	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Low (adverse) Medium (beneficial)	This action will require the use of new materials and may generate minimal construction waste, such as packaging and spoil, during the construction phase. All waste will be managed in accordance with standard construction waste protocols. The action aims to be resource-efficient by utilising existing infrastructure where possible. During operation, only small quantities of materials may be needed for routine maintenance, repairs, and monitoring.	Negligible adverse	Minor beneficial		
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	Small	Medium	Short-term	Temporary	Low (beneficial)	Low	This drought action would enhance the efficiency of water resource management to support the maintenance of essential public water supplies during drought conditions.	None	Negligible beneficial		
Water	4.1 To maintain or improve the quality of surface and groundwater resources.	Small	Low	Short-term	Temporary	Low (adverse)	Low	Any construction-related activities would be undertaken in line with best -practice construction methods, and as such, no significant effects on water quality are anticipated during this phase. During operation, there is potential for localised changes in water quality and turbidity. However, abstraction would remain within licensed limits, which are designed to protect environmental thresholds, and be subject to prior investigation.	Negligible adverse	None		
Water	4.2 To protect and enhance surface and groundwater levels and flows.	Small	Medium	Short-term	Temporary	Low (adverse)	Medium	During operation, there is potential for localised changes in groundwater levels from increased drawdown. However, abstraction would remain within licensed limits and be subject to prior investigation.	Negligible adverse	None		
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources, including contributing to the achievement of WFD compliance objectives.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	Any abstractions at the source would be within existing licence permissions. Therefore, it is not expected to result in additional pressure on groundwater resources compared to the baseline. The drought action will be managed within licensed volumes, and operational controls will be in place to avoid adverse effects on sensitive water-dependent ecosystems. This approach supports the sustainable management of water resources.	Negligible adverse	None		
Water	4.4 To promote water efficiency and actions that enable sustainable water use.	Small	Medium	Short-term	Temporary	Low (beneficial)	Low	While the action does not improve efficiency directly, it is part of a broader drought response promoting efficient water use.	None	Negligible beneficial		
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and protect and enhance geodiversity and ensure appropriate and efficient use of land.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	Some construction may be required, involving groundworks. Minor works may disturb soils locally. The use of existing infrastructure will promote efficient land use, and standard soil management practices will be implemented to minimise disturbance.	Negligible adverse	None		
Air and Climate	6.1 To maintain and improve air quality.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	Minor adverse effects on air quality may arise from vehicle movements and machinery use during the construction phase. These impacts could be more pronounced in areas already sensitive to air quality. As specific locations have not yet been identified, the magnitude of potential effects remains uncertain. However, given the localised nature of the anticipated works and the application of best practice construction methods, any adverse impacts are expected to be negligible.	Negligible adverse	None		
Air and climate	6.2 To reduce greenhouse gas emissions.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	The construction phase is expected to result in a temporary increase in greenhouse gas emissions due to the use of vehicles and machinery. As the works are largely confined to existing infrastructure, embodied emissions are anticipated to be minimal. During operation, energy demand may increase as a result of higher pumping requirements. However, the overall impact remains uncertain, and considering the negligible volumetric benefit expected, the rise in greenhouse gas emissions is expected to be minimal.	Negligible adverse	None		
Air and climate	6.3 To consider the need for adaptive actions for climate change.	Small	Medium	Short-term	Temporary	Low (beneficial)	Low	The drought action allows Anglian Water to diversify its water sources under drought conditions. Although this drought action does not change the capacity of the existing Anglian Water network, it will enhance reliability and drought resilience in the region.	None	Negligible beneficial		
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	Construction activities will typically occur within existing infrastructure sites. These works are unlikely to affect heritage assets.	Negligible adverse	None		
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, landscape character and visual amenity.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	Temporary effects on the local landscape may occur during the construction phase. However, as construction activities are minor and short-term, these impacts are considered minimal. The exact locations of construction sites are not yet confirmed and could be within designated or non-designated landscapes, including National Parks and National Landscapes. Any visual or landscape impacts are expected to be temporary.	Negligible adverse	None		

Drought Plan Action:	Groundwater - Satellite boreholes
Description	This action involves developing additional groundwater sources within the same aquifer system to supplement existing yields during periods of drought stress. By distributing abstraction across multiple points, satellite boreholes help to minimise localised drawdown, reduce pressure on individual production boreholes, and lessen horizon -specific flow impacts within the aquifer. This action could be included as part of existing group licence or need a new licence. Volumetric benefit: Major

SEA topics and objectives		Assessment of Drought Action								
Topic	Objective	Scale of effect: geographical &/or population affected (Small/Medium/Large)	Certainty of effect (Low/Medium/High)	Duration of effect (Short-term/Medium-term/Long-term)	Permanence of effect (Permanent/Temporary)	Magnitude of effect (Low/Medium/High)	Value/ sensitivity of receptor (Low/Medium/High)	Residual effect on sensitive receptors (assuming good practice construction methods) Commentary (construction and operation)	Residual adverse effect significance (likely to remain after reasonable mitigation)	Residual beneficial effect significance (likely to remain after reasonable mitigation)
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species), enhance ecosystem resilience and habitat connectivity.	Small	Low	Medium-term	Temporary	Low (adverse)	Medium	This action involves construction works, as a new source of supply, which could cause temporary disturbance to habitats and species, particularly if undertaken within or near sensitive sites. There may also be construction related to new pipework to connect into system. The application of best practice construction methods is anticipated to minimise adverse effects associated with these activities. During operation, abstraction may lead to localised changes in groundwater quality, including short -term increases in certain chemical parameters associated with drawdown, which could affect groundwater -dependent habitats. The new boreholes may also require new abstraction licences, resulting in additional pressure on the aquifer and potential effects on connected ecosystems. However, given the temporary nature of the action, any impacts are expected to be minor and reversible. As the exact locations of these works are currently unknown, there is some uncertainty regarding the specific nature and extent of potential effects.	Minor adverse	None
Biodiversity, flora and fauna	1.2 To protect and enhance sustainable natural resources and the ecosystem services they provide and deliver a biodiversity net gain.	Small	Low	Medium-term	Temporary	Low (adverse) Low (beneficial)	Medium	Construction activities associated with this action are expected to be short -term. The use of best-practice construction methods would minimise potential adverse effects on natural resources and the ecosystem services they support. Installation of new boreholes and pipework to connect to the system may require localised land clearance. This could also create opportunities for compensatory planting or habitat enhancement, resulting in minor beneficial effects. During operation, distributing abstraction across multiple boreholes would reduce pressure on individual sources and support improved aquifer resilience. A Biodiversity Net Gain (BNG) assessment has not been undertaken at this stage.	Minor adverse	Minor beneficial
Biodiversity, flora and fauna	1.3 To avoid introducing or spreading INNS.	Small	Low	Medium-term	Temporary	Low (adverse)	Low	This action presents a negligible risk of transferring or spreading INNS. All works would be confined to closed groundwater infrastructure, including boreholes, rising mains, and pump headworks, with no movement of water between catchments. With standard biosecurity measures applied, any residual risk remains negligible.	Negligible adverse	None
Biodiversity, flora and fauna	1.4 To meet WFD objectives relating to biodiversity.	Small	Low	Medium-term	Temporary	Low (adverse)	Medium	Construction activities may result in disturbance to habitats and species, particularly where works occur within or near sensitive sites. During operation, localised changes in water quality may arise, including short -term increases in certain chemical parameters associated with drawdown, which could affect groundwater -dependent habitats. However, as this action is temporary, any effects are expected to be minor and reversible. As the precise locations of the works have not yet been confirmed, some uncertainty remains regarding the specific nature and extent of potential effects	Minor adverse	None
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Large	Low	Medium-term	Temporary	Low (adverse) High (beneficial)	Medium	Temporary effects from noise, dust, and vibration may occur during the construction phase. While these works are expected to be short-term, some uncertainty remains regarding the potential extent and significance of effects because construction locations have not yet been confirmed, particularly in relation to AQMAs, Noise Important Areas, or nearby residential receptors. The use of best -practice construction measures will help minimise these effects. In supporting the existing yield, this action will provide a major volumetric benefit and therefore help maintain a resilient water supply during drought conditions, supporting customer needs.	Minor adverse	Major beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Low	Short-term	Temporary	Low (adverse)	Medium	This action involves the construction of new boreholes at locations that have not yet been confirmed. Any effects on recreation, including potential effects on public access, would be minimised as far as practicable through the use of best -practice construction methods. However, because the exact construction sites are currently unknown, some uncertainty remains regarding the potential extent and nature of these effects. Once operational, this action will help maintain water supply. As it is designed to provide supply benefits before a Level of Service (LoS) 4 trigger is reached, it is unlikely that the abstracted water would be used to support recreational activities.	Minor adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Small	Medium	Medium-term	Temporary	High (beneficial)	Medium	Construction activities associated with this action are unlikely to disrupt economic activities. Implementation will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Major beneficial
Material assets and resource use	3.1 To minimise waste, promote resource efficiency and move towards a circular economy.	Small	Medium	Medium-term	Temporary	Low (adverse) Low (beneficial)	Medium	Construction works may generate waste. This action will require the construction of new boreholes and therefore the use of new materials, and may generate construction waste, such as packaging and spoil during the construction phase. All waste will be managed in accordance with standard construction waste protocols. The action aims to be resource-efficient by utilising existing infrastructure where possible. During operation, only small quantities of materials may be needed for routine maintenance, repairs, and monitoring.	Minor adverse	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	Small	Medium	Medium-term	Temporary	Low (beneficial)	Medium	This drought action would enhance the efficiency of water resource management to support the maintenance of essential public water supplies during drought conditions.	None	Minor beneficial
Water	4.1 To maintain or improve the quality of surface and groundwater resources.	Small	Low	Medium-term	Temporary	Low (adverse) Medium (beneficial)	Low	Construction activities would follow best -practice methods, and no significant effects on water quality are anticipated during this phase. During operation, localised changes in water quality and turbidity may occur, including short -term increases in certain chemical parameters linked to drawdown. However, distributing abstraction across multiple locations may reduce localised drawdown and limits water quality effects at any single site.	Negligible adverse	Minor beneficial
Water	4.2 To protect and enhance surface and groundwater levels and flows.	Small	Medium	Medium-term	Temporary	Low (adverse) Medium (beneficial)	Low	During operation, increased drawdown may lead to localised changes in groundwater levels. However, distributing abstraction across multiple locations can reduce pressure on individual production boreholes and help minimise horizon -specific flow effects within the aquifer.	Negligible adverse	Minor beneficial
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources, including contributing to the achievement of WFD compliance objectives.	Small	Medium	Medium-term	Temporary	Low (adverse) High (beneficial)	Medium	This action is intended to sustain existing yield during periods of water stress. Localised shifts in water quality may occur, including short-term increases in certain chemical parameters linked to drawdown, which could affect groundwater -dependent habitats and their ecological functions. However, spreading abstraction across multiple sites reduces pressure on individual boreholes, dispersing potential effects and lowering the risk to local ecosystems.	Minor adverse	Major beneficial
Water	4.4 To promote water efficiency and actions that enable sustainable water use.	Small	Medium	Medium-term	Temporary	High (beneficial)	Medium	While the action does not improve efficiency directly, it is part of a broader drought response promoting efficient water use.	None	Major beneficial
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and protect and enhance geodiversity and ensure appropriate and efficient use of land.	Small	Medium	Short-term	Temporary	Low (adverse)	Medium	Construction will be required, involving groundwork disturbing soils locally. As site locations are not yet confirmed, there is some uncertainty regarding proximity to geologically important sites or high-value agricultural land.	Minor adverse	None
Air and Climate	6.1 To maintain and improve air quality.	Small	Medium	Medium-term	Temporary	Low (adverse)	Medium	Minor adverse effects on air quality may arise from vehicle movements and machinery use during the construction phase. These effects could be more pronounced in areas already sensitive to air quality. As specific locations have not yet been identified, the magnitude of potential effects remains uncertain. However, given the moderate-scale and localised nature of the anticipated works, and the application of best practice construction methods, any adverse effects are expected to be minor.	Minor adverse	None
Air and climate	6.2 To reduce greenhouse gas emissions.	Small	Medium	Short-term	Temporary	Low (adverse)	Medium	The construction phase is expected to generate a temporary increase in greenhouse gas emissions from the use of vehicles and machinery. Although the action would seek to utilise existing infrastructure where possible, the introduction of new assets means embodied emissions are significant, resulting in a minor adverse effect. During operation, energy consumption will be required to support pumping from the boreholes.	Minor adverse	None
Air and climate	6.3 To consider the need for adaptive actions for climate change.	Small	Medium	Medium-term	Temporary	High (beneficial)	Medium	The drought action allows Anglian Water to diversify its water sources under drought conditions. Although this drought action does not change the capacity of the existing Anglian Water network, it will enhance reliability and drought resilience in the region.	None	Major beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Small	Medium	Medium-term	Temporary	Low (adverse)	Medium	During construction, there may be temporary effects on the setting of nearby heritage assets or designated sites. However, some uncertainty remains as the exact locations of construction sites and their proximity to protected heritage features have not yet been confirmed. The action may require new licences. Depending on the licensed abstraction volumes, there is a potential risk of groundwater drawdown which could adversely affect water-logged archaeological deposits.	Minor adverse	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, landscape character and visual amenity.	Small	Medium	Short-term	Temporary	Low (adverse)	Medium	Temporary effects on the local landscape may occur during the construction phase. However, as construction activities are short-term, these impacts are considered minimal. The exact locations of the new sites are not yet confirmed and could be within designated or non-designated landscapes, including National Parks and National Landscapes. Any visual or landscape effects are expected to be temporary.	Minor adverse	None

Drought Plan Action:	Groundwater - Recommissioning or Commissioning out-of-service boreholes
Description	This action involves bringing unused or previously decommissioned boreholes back into service to provide an additional source of groundwater during drought. This may involve reinstating pumps, refurbishing headworks, reconnecting pipework etc.. It may also be used to support river flows through augmentation. The action aims to support existing yields, provide additional supply flexibility, and reduce pressure on operational boreholes. This action could be included as part of existing group licence or need a new licence. Volumetric benefit: Moderate

SEA topics and objectives		Assessment of Drought Action										Residual adverse effect significance (likely to remain after reasonable mitigation)	Residual beneficial effect significance (likely to remain after reasonable mitigation)
Topic	Objective	Scale of effect: geographical &/or population affected (Small/Medium/Large)	Certainty of effect (Low/Medium/High)	Duration of effect (Short-term/Medium-term/Long-term)	Permanence of effect (Permanent/Temporary)	Magnitude of effect (Low/Medium/High)	Value/ sensitivity of receptor (Low/Medium/High)	Residual effect on sensitive receptors (assuming good practice construction methods) Commentary (construction and operation)					
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species), enhance ecosystem resilience and habitat connectivity.	Small	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Medium	The exact locations and the works required to commission or recommission the out-of-service boreholes are currently unknown. Although works are assumed to be minor, this uncertainty extends to the potential nature, scale, and extent of effects. Activities would largely utilise existing borehole infrastructure, limiting disturbance. However, the piping route of the water for treatment may affect sensitive receptors. The use of best-practice construction methods would minimise adverse effects. During operation, localised effects may arise from drawdown and associated changes in turbidity and water quality, including short-term increases in certain chemical parameters that could affect groundwater-dependent habitats. Without confirmed borehole locations, uncertainty remains regarding proximity to sensitive receptors or watercourses. Given the temporary nature of the action, any effects are expected to be minor and reversible. Where used for river augmentation, the action would help maintain river flows, supporting aquatic habitats important for fish, invertebrates, and aquatic plants, resulting in beneficial effects. Ecological responses to flow support can vary. There remains potential for adverse effects from increased flows, including flushing, sedimentation of sensitive habitats, or species mortality linked to sudden changes in flow or water quality.		Minor adverse	Minor beneficial		
Biodiversity, flora and fauna	1.2 To protect and enhance sustainable natural resources and the ecosystem services they provide and deliver a biodiversity net gain.	Small	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Low (adverse) Medium (beneficial)	Construction activities are expected to be small-scale and short-term, with best-practice methods helping to minimise any adverse effects on natural resources and the ecosystem services they support. Works would be limited to existing infrastructure sites, reducing the potential for disturbance, and pipe routing would be planned to avoid sensitive receptors. Although works will predominantly take place within established operational areas, pipeline installation may be required, potentially creating opportunity to deliver Biodiversity Net Gain (BNG). During operation, where used for river augmentation, this action will support river water levels and flow rates. This may result in beneficial effects by supporting natural resources and enhancing ecosystem services. A BNG assessment has not been undertaken at this stage.		Negligible adverse	Minor beneficial		
Biodiversity, flora and fauna	1.3 To avoid introducing or spreading INNS.	Small	Low	Short-term	Temporary	Low (adverse)	Low	This action presents a negligible risk of transferring or spreading INNS. All construction works will be confined to closed groundwater infrastructure. However, the abstracted water may be used to support river flows. With standard biosecurity measures in place, any residual risk is expected to remain negligible.		Negligible adverse	None		
Biodiversity, flora and fauna	1.4 To meet WFD objectives relating to biodiversity.	Small	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Medium	Construction works will be confined to closed groundwater infrastructure, and any effects on biodiversity from pipeline routing would be minimised through the use of best-practice construction methods. Water abstraction may influence water availability in the natural environment. During operation, localised changes in water quality may occur, including short-term increases in certain chemical parameters associated with drawdown, which could affect groundwater-dependent habitats. As the action is temporary, any such effects are expected to be minor and reversible. Discharging water into the river will supplement natural flows, helping to minimise effects on aquatic habitats and species during dry conditions. This flow support may also contribute positively to WFD ecological status.		Minor adverse	Minor beneficial		
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Large	Medium	Short-term	Temporary	Medium (adverse) Medium (beneficial)	Low (adverse) Medium (beneficial)	Temporary, minor effects from noise, dust, and vibration may arise during the construction phase. Although these activities are expected to be small in scale and of short duration, there is some uncertainty regarding the extent and significance of potential effects due to the unknown locations of the boreholes, particularly in relation to Air Quality Management Areas (AQMAs), Noise Important Areas, or nearby residential receptors. These effects will be minimised through the use of best practice construction methods. In supporting the existing yield, this action will provide a moderate volumetric benefit and therefore help maintain a resilient water supply during drought conditions, supporting customer needs.		Minor adverse	Moderate beneficial		
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Low (adverse) Medium (beneficial)	This action involves commissioning and recommissioning out-of-service boreholes at locations that have not yet been confirmed. Any effects on recreation, including potential effects on public access, would be minimised as far as practicable through best-practice construction methods. However, the lack of confirmed sites means some uncertainty remains regarding the extent and nature of potential effects. Once operational, the action will supplement river flows during dry periods, helping to maintain suitable water levels for activities such as angling, canoeing, and rowing. As such, it is likely to have beneficial effects on recreation.		Negligible adverse	Minor beneficial		
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Small	Medium	Short-term	Temporary	Medium (beneficial)	Medium	No material disruption to economic activity during works. Implementation will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.		None	Moderate beneficial		
Material assets and resource use	3.1 To minimise waste, promote resource efficiency and move towards a circular economy.	Small	Low	Short-term	Temporary	Low (adverse) Low (beneficial)	Medium	Construction works may generate waste. This action will require the use of new materials and may generate construction waste, such as packaging. All waste will be managed in accordance with standard construction waste protocols. The action aims to be resource-efficient by utilising existing infrastructure where possible. During operation, only small quantities of materials may be needed for routine maintenance, repairs, and monitoring.		Minor adverse	Minor beneficial		
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	Small	Medium	Short-term	Temporary	Medium (beneficial)	Medium	This drought action would enhance the efficiency of water resource management to support the maintenance of essential public water supplies during drought conditions.		None	Moderate beneficial		
Water	4.1 To maintain or improve the quality of surface and groundwater resources.	Small	Low	Short-term	Temporary	Low (adverse) Low (beneficial)	Medium	Construction activities would follow best-practice methods, and no significant water-quality effects are anticipated. During operation, localised changes in water quality and turbidity may occur, including short-term increases in chemical parameters linked to drawdown. Distributing abstraction across multiple boreholes would reduce pressure on individual sources. In recipient rivers, flow changes may cause temporary variations in water quality. Augmented flows can improve dilution during dry periods, but there is a risk of reduced surface water quality if abstracted groundwater is poor or mobilises contaminants. This risk will be mitigated by ceasing abstraction when water quality falls below acceptable standards. Overall, effects are expected to be short-term with no lasting effects on affected water bodies.		Minor adverse	Minor beneficial		
Water	4.2 To protect and enhance surface and groundwater levels and flows.	Small	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Medium	During operation, increased drawdown may cause localised changes in groundwater levels. However, distributing abstraction across multiple locations can reduce pressure on individual production boreholes and help minimise horizon-specific flow effects within the aquifer. In recipient rivers, surface water flows will be supported during drought conditions, helping to maintain baseflows.		Minor adverse	Minor beneficial		
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources, including contributing to the achievement of WFD compliance objectives.	Small	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Medium	This action is intended to sustain existing yield during periods of water stress. Localised shifts in water quality may occur, including short-term increases in certain chemical parameters linked to drawdown, which could affect groundwater-dependent habitats and their ecological functions. However, spreading abstraction across multiple sites reduces pressure on individual boreholes, dispersing potential effects and lowering the risk to local ecosystems.		Minor adverse	Minor beneficial		
Water	4.4 To promote water efficiency and actions that enable sustainable water use.	Small	Medium	Short-term	Temporary	Low (beneficial)	Low	While the action does not improve efficiency directly, it is part of a broader drought response promoting efficient water use.		None	Negligible beneficial		
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and protect and enhance geodiversity and ensure appropriate and efficient use of land.	Small	Low	Short-term	Temporary	Low (adverse)	Low	Some construction may be required to make the boreholes operational. Minor works may disturb soils locally. The use of existing infrastructure will promote efficient land use, and standard soil management practices will be implemented to minimise disturbance.		Negligible adverse	None		
Air and Climate	6.1 To maintain and improve air quality.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	Minor adverse effects on air quality may arise from construction works, vehicle movements and machinery use should construction be required. These impacts could be more pronounced in areas already sensitive to air quality. As specific locations have not yet been identified, the magnitude of potential effects remains uncertain. However, given the localised nature of the anticipated works and the application of best practice construction methods, any adverse impacts are expected to be negligible.		Negligible adverse	None		
Air and climate	6.2 To reduce greenhouse gas emissions.	Small	Medium	Short-term	Temporary	Low (adverse)	Medium	The construction phase is expected to generate a temporary increase in greenhouse gas emissions from the use of vehicles and machinery. Although the action would seek to utilise existing infrastructure where possible, the introduction of new assets means embodied emissions results in a minor adverse effect. During operation, energy consumption will be required to support pumping from the boreholes.		Minor adverse	None		
Air and climate	6.3 To consider the need for adaptive actions for climate change.	Small	Medium	Short-term	Temporary	Medium (beneficial)	Medium	The drought action allows Anglian Water to diversify its water sources under drought conditions. Although this drought action does not change the capacity of the existing Anglian Water network, it will enhance reliability and drought resilience in the region.		None	Moderate beneficial		
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	During construction, there may be temporary effects on the setting of nearby heritage assets or designated sites. However, some uncertainty remains as the exact locations of construction sites and their proximity to protected heritage features have not yet been confirmed. The action may require new licences. Depending on the licensed abstraction volumes, there is a potential risk of groundwater drawdown which could adversely affect water-logged archaeological deposits.		Negligible adverse	None		
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, landscape character and visual amenity.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	Temporary effects on the local landscape may occur during the construction phase. However, as construction activities are minor and short-term, these effects are considered minimal. The exact locations of borehole sites are not yet confirmed and could be within designated or non-designated landscapes, including National Parks and National Landscapes. Any visual or landscape effects are expected to be temporary.		Negligible adverse	None		

Drought Plan Action:	Groundwater - Use of 3rd party boreholes
Description	This action involves abstracting groundwater from boreholes owned by third parties (e.g., agricultural, industrial, private, or legacy boreholes) to supplement public water supply during drought. It may include recommissioning unused private assets, forming agreements with landowners, and connecting boreholes to the public network. This action could be included as part of existing group licence or need a new licence. Volumetric benefit: Minor

SEA topics and objectives		Assessment of Drought Action									
Topic	Objective	Scale of effect: geographical &/or population affected (Small/Medium/Large)	Certainty of effect (Low/Medium/High)	Duration of effect (Short-term/Medium-term/Long-term)	Permanence of effect (Permanent/Temporary)	Magnitude of effect (Low/Medium/High)	Value/ sensitivity of receptor (Low/Medium/High)	Residual effect on sensitive receptors (assuming good practice construction methods) (construction and operation)	Commentary	Residual adverse effect significance (likely to remain after reasonable mitigation)	Residual beneficial effect significance (likely to remain after reasonable mitigation)
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species), enhance ecosystem resilience and habitat connectivity.	Small	Low	Short-term	Temporary	Low (adverse)	Medium	The locations of the boreholes and the works required to recommission them are currently unknown. It is anticipated that works would be of moderate scale and may include the construction of pipelines to connect the boreholes to water treatment works. Although activities would largely make use of existing infrastructure, some disturbance may occur where new pipework or connections are required. The application of best-practice construction methods would minimise adverse effects.	During operation, changes in turbidity and water quality may occur, including short-term increases in chemical parameters that could affect groundwater-dependent habitats. Without confirmed borehole locations, uncertainty remains regarding proximity to sensitive receptors or watercourses. Given the temporary nature of the action, any effects are expected to be minor and reversible.	Minor adverse	None
Biodiversity, flora and fauna	1.2 To protect and enhance sustainable natural resources and the ecosystem services they provide and deliver a biodiversity net gain.	Small	Low	Short-term	Temporary	Low (adverse) Low (beneficial)	Low (adverse) Medium (beneficial)	Construction activities required to recommission the boreholes, where required, are expected to be moderate scale and short-term. Best-practice construction methods will minimise any adverse effects on natural resources and the ecosystem services they support. Works may require localised land clearance. This could also create opportunities for compensatory planting or habitat enhancement, resulting in minor beneficial effects.	During operation, distributing abstraction across multiple boreholes would reduce pressure on individual sources and support improved aquifer resilience.	Negligible adverse	Minor beneficial
Biodiversity, flora and fauna	1.3 To avoid introducing or spreading INNS.	Small	Low	Short-term	Temporary	Low (adverse)	Low	This action presents a negligible risk of transferring or spreading INNS. All construction works will be confined to closed groundwater infrastructure. However, the abstracted water may be used to support river flows. With standard biosecurity measures in place, any residual risk is expected to remain negligible.		Negligible adverse	None
Biodiversity, flora and fauna	1.4 To meet WFD objectives relating to biodiversity.	Small	Low	Short-term	Temporary	Low (adverse)	Medium	Construction works will be confined to closed groundwater infrastructure, and any effects on biodiversity from pipeline routing would be minimised through the use of best-practice construction methods.	Water abstraction may influence water availability in the natural environment. During operation, localised changes in water quality may occur, including short-term increases in certain chemical parameters, which could affect groundwater-dependent habitats. As the action is temporary, any such effects are expected to be minor and reversible.	Minor adverse	None
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Large	Medium	Short-term	Temporary	Low (adverse) Medium (beneficial)	Low	Temporary, minor effects from noise, dust, and vibration may arise during the construction phase. Although these activities are expected to be small in scale and of short duration, there is some uncertainty regarding the extent and significance of potential effects due to the unknown locations of the boreholes, particularly in relation to Air Quality Management Areas (AQMAs), Noise Important Areas, or nearby residential receptors. These effects will be minimised through the use of best practice construction methods.	In supporting the existing yield, this action will provide a minor volumetric benefit and therefore help maintain a resilient water supply during drought conditions, supporting customer needs..	Negligible adverse	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	This action involves recommissioning boreholes at locations that have not yet been confirmed. Any effects on recreation, including potential effects on public access, would be minimised as far as practicable through best-practice construction methods. However, the lack of confirmed sites means some uncertainty remains regarding the extent and nature of potential effects.	Once operational, this action will support the maintenance of water supply. However, as it is intended to provide supply benefits before a Level of Service (LoS) 4 trigger is reached, it is unlikely that the abstracted water would be used to facilitate recreational activities.	Negligible adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Small	Medium	Short-term	Temporary	Low (beneficial)	Medium	No material disruption to economic activity during works. Implementing this drought action will help maintain supply reliability during dry conditions, supporting both customers and wider economic resilience. However, economic activities such as agriculture that rely on these boreholes may experience some effects.		None	Minor beneficial
Material assets and resource use	3.1 To minimise waste, promote resource efficiency and move towards a circular economy.	Small	Low	Short-term	Temporary	Low (adverse) Low (beneficial)	Medium	Construction works may generate waste, and recommissioning activities will require new materials, resulting in some construction waste. All waste will be managed in line with standard construction protocols, and the action aims to remain resource-efficient by making use of existing infrastructure wherever possible.	During operation, only small quantities of materials will be required for routine maintenance, repairs, and monitoring.	Minor adverse	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	Small	Medium	Short-term	Temporary	Low (beneficial)	Medium	This drought action would enhance the efficiency of water resource management to support the maintenance of essential public water supplies during drought conditions.		None	Minor beneficial
Water	4.1 To maintain or improve the quality of surface and groundwater resources.	Small	Low	Short-term	Temporary	Low (adverse) Medium (beneficial)	Low	Construction activities would follow best-practice methods, and no significant water-quality effects are anticipated.	During operation, localised changes in water quality and turbidity may occur, including short-term increases in chemical parameters linked to drawdown. Distributing abstraction across multiple boreholes would reduce pressure on individual sources.	Negligible adverse	Minor beneficial
Water	4.2 To protect and enhance surface and groundwater levels and flows.	Small	Medium	Short-term	Temporary	Low (adverse) Medium (beneficial)	Low	During operation, increased drawdown may lead to localised changes in groundwater levels. However, distributing abstraction across multiple locations can reduce pressure on individual production boreholes and help minimise horizon-specific flow effects within the aquifer.		Negligible adverse	Minor beneficial
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources, including contributing to the achievement of WFD compliance objectives.	Small	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Medium	This action is designed to maintain existing yield during periods of water stress. Localised changes in water quality may arise, including short-term increases in certain chemical parameters associated with drawdown, which could affect groundwater-dependent habitats and their ecological functions. However, spreading abstraction across multiple sites reduces pressure on individual boreholes, dispersing potential effects and lowering the risk to local ecosystems.		Minor adverse	Minor beneficial
Water	4.4 To promote water efficiency and actions that enable sustainable water use.	Small	Medium	Short-term	Temporary	Low (beneficial)	Low	While the action does not improve efficiency directly, it is part of a broader drought response promoting efficient water use.		None	Negligible beneficial
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and protect and enhance geodiversity and ensure appropriate and efficient use of land.	Small	Low	Short-term	Temporary	Low (adverse)	Low	Some construction may be required to make the boreholes operational. Minor works may disturb soils locally. The use of existing infrastructure will promote efficient land use, and standard soil management practices will be implemented to minimise disturbance.		Negligible adverse	None
Air and Climate	6.1 To maintain and improve air quality.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	Minor adverse effects on air quality may arise from vehicle movements and machinery use during the construction phase. These effects could be more pronounced in areas already sensitive to air quality. As specific locations have not yet been identified, the magnitude of potential effects remains uncertain. However, given the localised nature of the anticipated works and the application of best practice construction methods, any adverse effects are expected to be negligible.		Negligible adverse	None
Air and climate	6.2 To reduce greenhouse gas emissions.	Small	Medium	Short-term	Temporary	Low (adverse)	Medium	The construction phase is expected to generate a temporary increase in greenhouse gas emissions from the use of vehicles and machinery. Although the action would seek to utilise existing infrastructure where possible, the introduction of new assets means embodied emissions are significant, resulting in a minor adverse effect.	During operation, energy consumption will be required to support pumping from the boreholes.	Minor adverse	None
Air and climate	6.3 To consider the need for adaptive actions for climate change.	Small	Medium	Short-term	Temporary	Low (beneficial)	Medium	The drought action allows Anglian Water to diversify its water sources under drought conditions. Although this drought action does not change the capacity of the existing Anglian Water network, it will enhance reliability and drought resilience in the region.		None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	During construction, there may be temporary effects on the setting of nearby heritage assets or designated sites. However, some uncertainty remains as the exact locations of construction sites and their proximity to protected heritage features have not yet been confirmed.	The action may require new licences. Depending on the licensed abstraction volumes, there is a potential risk of groundwater drawdown which could adversely affect water-logged archaeological deposits.	Negligible adverse	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, landscape character and visual amenity.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	Temporary effects on the local landscape may occur during the construction phase. However, as construction activities are minor and short-term, these effects are considered minimal.	The exact locations of the borehole sites are not yet confirmed and could be within designated or non-designated landscapes, including National Parks and National Landscapes. Any visual or landscape effects are expected to be temporary.	Negligible adverse	None

Drought Plan Action:	Groundwater - Repurpose river support boreholes
Description	This action involves converting existing boreholes - currently used to support ecological flows by augmenting rivers with groundwater - into sources of public water supply during drought. This may require modifying pumps and infrastructure and connecting the boreholes to the supply network. The licensed abstraction volumes may remain the same; however Anglian Water could seek to increase the abstraction rate if operational needs justify it. Volumetric benefit: Minor

SEA topics and objectives		Assessment of Drought Action									
Topic	Objective	Scale of effect: geographical &/or population affected (Small/Medium/Large)	Certainty of effect (Low/Medium/High)	Duration of effect (Short-term/Medium-term/Long-term)	Permanence of effect (Permanent/Temporary)	Magnitude of effect (Low/Medium/High)	Value/ sensitivity of receptor (Low/Medium/High)	Residual effect on sensitive receptors (assuming good practice construction methods and operation)	Commentary (construction and operation)	Residual adverse effect significance (likely to remain after reasonable mitigation)	Residual beneficial effect significance (likely to remain after reasonable mitigation)
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species), enhance ecosystem resilience and habitat connectivity.	Small	Medium	Short-term	Temporary	Low (adverse)	Medium	This action involves construction works, as a new source/maintenance of supply, which could cause temporary disturbance to habitats and species, particularly if undertaken within or near sensitive sites. It is anticipated that works would be of moderate scale and may include the construction of pipelines to connect the boreholes to water treatment works. The application of best practice construction methods is anticipated to minimise adverse effects associated with these activities.	During operation, repurposing may reduce or remove river support flows potentially adversely affecting local hydrology and aquatic ecology.	Minor adverse	None
Biodiversity, flora and fauna	1.2 To protect and enhance sustainable natural resources and the ecosystem services they provide and deliver a biodiversity net gain.	Small	Medium	Short-term	Temporary	Low (adverse)	Medium	Construction activities are expected to be moderate scale and shortlived, with bestpractice methods helping to minimise effects on natural resources and associated ecosystem services. Works may require localised land clearance. This could also create opportunities for compensatory planting or habitat enhancement, resulting in minor beneficial effects.	During operation, repurposing the assets may reduce or remove river support flows, potentially altering local hydrology and aquatic ecology and affecting the ecosystem services they provide.	Minor adverse	None
Biodiversity, flora and fauna	1.3 To avoid introducing or spreading INNS.	Small	Low	Short-term	Temporary	Low (adverse)	Low	This action presents a negligible risk of transferring or spreading INNS. Construction works, including modifying and resizing pumps and infrastructure, will be confined to closed groundwater infrastructure. Abstracted water will be conveyed for treatment and used to maintain public water supply. With standard biosecurity measures in place, any residual risk is expected to remain negligible.		Negligible adverse	None
Biodiversity, flora and fauna	1.4 To meet WFD objectives relating to biodiversity.	Small	Medium	Short-term	Temporary	Low (adverse)	Medium	Construction activities may result in disturbance to habitats and species, particularly for pipelines where works occur within or near sensitive sites.	Water abstraction may influence water availability in the natural environment. During operation, localised changes in water quality may occur, potentially affecting groundwaterdependent habitats.	Minor adverse	None
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Large	Medium	Short-term	Temporary	Low (adverse) Medium (beneficial)	Low	Temporary, minor effects from noise, dust, and vibration may arise during the construction phase. Although these activities are expected to be small in scale and of short duration, there is some uncertainty regarding the extent and significance of potential effects due to the unknown locations of the boreholes, particularly in relation to Air Quality Management Areas (AQMAs), Noise Important Areas, or nearby residential receptors. These effects will be minimised through the use of best practice construction methods.	In supporting the existing yield, this action will provide a minor volumetric benefit and therefore help maintain a resilient water supply during drought conditions, supporting customer needs.	Negligible adverse	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Medium	Short-term	Temporary	Low (adverse)	Medium	Any effects on recreation, including potential effects on public access, would be minimised as far as practicable through best-practice construction methods. However, because the locations of the works and full extent of works are not yet confirmed, some uncertainty remains regarding the extent and nature of potential effects.	Once operational, the action may reduce or remove river support flows, which could affect waterbased recreational activities in the rivers concerned.	Minor adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Small	Medium	Short-term	Temporary	Low (beneficial)	Medium	No material disruption to economic activity during works. Implementation will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.		None	Minor beneficial
Material assets and resource use	3.1 To minimise waste, promote resource efficiency and move towards a circular economy.	Small	Low	Short-term	Temporary	Low (adverse) Low (beneficial)	Medium	Construction works may generate waste. This action will require the use of new materials and may generate construction waste, such as packaging. All waste will be managed in accordance with standard construction waste protocols. The action aims to be resource-efficient by utilising existing infrastructure where possible.	During operation, only small quantities of materials may be needed for routine maintenance, repairs, and monitoring.	Minor adverse	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	Small	Medium	Short-term	Temporary	Low (beneficial)	Medium	This drought action would enhance the efficiency of water resource management to support the maintenance of essential public water supplies during drought conditions.		None	Minor beneficial
Water	4.1 To maintain or improve the quality of surface and groundwater resources.	Small	Low	Short-term	Temporary	Low (adverse) Low (beneficial)	Medium	Construction activities would follow bestpractice methods, and no significant effects on water quality are anticipated.	During operation, reducing or removing river support flows may reduce dilution capacity, potentially leading to a decline in water quality in affected rivers. However, distributing abstraction across multiple boreholes would reduce pressure on individual sources.	Minor adverse	Minor beneficial
Water	4.2 To protect and enhance surface and groundwater levels and flows.	Small	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Medium	During operation, increased drawdown may cause localised changes in groundwater levels and removal of river support may reduce baseflow. However, distributing abstraction across multiple locations can reduce pressure on individual production boreholes and help minimise horizonsspecific flow effects within the aquifer.		Minor adverse	Minor beneficial
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources, including contributing to the achievement of WFD compliance objectives.	Small	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Medium	This action is intended to maintain and supplement existing yield during periods of water stress. Localised changes in water quality may occur due to drawdown, and in rivers, reduced dilution capacity, potentially affecting habitats and their ecological functions. However, spreading abstraction across multiple sites reduces pressure on individual boreholes, dispersing potential effects and lowering the risk to local ecosystems.		Minor adverse	Minor beneficial
Water	4.4 To promote water efficiency and actions that enable sustainable water use.	Small	Medium	Short-term	Temporary	Low (beneficial)	Low	While the action does not improve efficiency directly, it is part of a broader drought response promoting efficient water use.		None	Negligible beneficial
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and protect and enhance geodiversity and ensure appropriate and efficient use of land.	Small	Low	Short-term	Temporary	Low (adverse)	Low	Some construction may be needed to resize pumps and associated infrastructure, with pipeline works potentially causing localised soil disturbance. Using existing infrastructure will support efficient land use, and standard soil management practices will be applied to minimise any disruption.		Negligible adverse	None
Air and Climate	6.1 To maintain and improve air quality.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	Minor adverse effects on air quality may arise from vehicle movements and machinery use during the construction phase. These effects could be more pronounced in areas already sensitive to air quality. As specific locations have not yet been identified, the magnitude of potential effects remains uncertain. However, given the localised nature of the anticipated works and the application of best practice construction methods, any adverse effects are expected to be negligible.		Negligible adverse	None
Air and climate	6.2 To reduce greenhouse gas emissions.	Small	Medium	Short-term	Temporary	Low (adverse)	Medium	The construction phase is expected to generate a temporary increase in greenhouse gas emissions from the use of vehicles and machinery. Although the action would seek to utilise existing infrastructure where possible, the introduction of new assets such as pipelines means embodied emissions are significant, resulting in a minor adverse effect.	During operation, energy consumption will be required to support pumping from the boreholes.	Minor adverse	None
Air and climate	6.3 To consider the need for adaptive actions for climate change	Small	Medium	Short-term	Temporary	Low (beneficial)	Medium	The drought action allows Anglian Water to diversify its water sources under drought conditions. Although this drought action does not change the capacity of the existing Anglian Water network, it will enhance reliability and drought resilience in the region.		None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	During construction, there may be temporary effects on the setting of nearby heritage assets or designated sites. However, some uncertainty remains as the exact locations of construction sites and their proximity to protected heritage features have not yet been confirmed.	The action may require new licences. Depending on the licensed abstraction volumes, there is a potential risk of groundwater drawdown which could adversely affect water-logged archaeological deposits.	Negligible adverse	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, landscape character and visual amenity.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	Temporary effects on the local landscape may occur during the construction phase. However, as construction activities are minor and short-term, these effects are considered minimal.	The exact locations of borehole sites are not yet confirmed and could be within designated or non-designated landscapes, including National Parks and National Landscapes. Any visual or landscape effects are expected to be temporary.	Negligible adverse	None

Drought Plan Action:	River support
Description	This action involves abstracting groundwater from boreholes and discharge into nearby rivers to provide rapid emergency supply during severe drought. The volume abstracted could remain unchanged, although Anglian Water may decide to increase it depending on need. Volumetric benefit: Minor

SEA topics and objectives		Assessment of Drought Action							Residual adverse effect significance (likely to remain after reasonable mitigation)	Residual beneficial effect significance (likely to remain after reasonable mitigation)
Topic	Objective	Scale of effect: geographical &/or population affected (Small/Medium/Large)	Certainty of effect (Low/Medium/High)	Duration of effect (Short-term/Medium-term/Long-term)	Permanence of effect (Permanent/Temporary)	Magnitude of effect (Low/Medium/High)	Value/ sensitivity of receptor (Low/Medium/High)	Residual effect on sensitive receptors (assuming good practice construction methods) Commentary (construction and operation)		
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species), enhance ecosystem resilience and habitat connectivity.	Small	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Medium (adverse) Low (beneficial)	Existing infrastructure will be used, though some piping may be needed to transfer water from nearby boreholes to the rivers. The action would temporarily augment local river flows, supporting aquatic habitats important for fish, invertebrates, and aquatic plants, resulting in beneficial effects. Ecological responses to flow support can vary. There remains potential for adverse effects from increased flows, including flushing, sedimentation of sensitive habitats, impacts related to differences in water quality and temperature of discharged water, and species disturbance or mortality linked to sudden changes in flow or water quality. Because the discharged water will be re -abstracted, river flows will not result in a net increase in baseline drought levels. Aquifer–river connectivity and potential drawdown will need consideration, as these could affect water quality, turbidity, and chemical parameters, with implications for groundwater -dependent receptors.	Minor adverse	Negligible beneficial
Biodiversity, flora and fauna	1.2 To protect and enhance sustainable natural resources and the ecosystem services they provide and deliver a biodiversity net gain.	Small	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Medium	Installing new pipework may require land clearance however the exact routes are unknown at this stage and with good practice, effects would be temporary, reversible and localised. If biodiversity units are lost during construction, there may be minor opportunities for compensatory planting or habitat enhancement. At this stage of drought planning, the scale and location of any Biodiversity Net Gain (BNG) measures remain uncertain and will depend on future design development; therefore, potential BNG benefits are not included in this assessment. The action would temporarily augment local river flows, supporting aquatic habitats important for fish, invertebrates, and aquatic plants, resulting in beneficial effects. Ecological responses to flow support can vary. There remains potential for adverse effects from increased flows, including flushing, sedimentation of sensitive habitats, impacts related to differences in water quality and temperature of discharged water, and species disturbance or mortality linked to sudden changes in flow or water quality.	Minor adverse	Minor beneficial
Biodiversity, flora and fauna	1.3 To avoid introducing or spreading INNS.	Small	Low	Short-term	Temporary	Low (adverse)	Low	It is anticipated that works would be of moderate scale and may include the construction of pipelines to connect the boreholes to water treatment works. The operation of the scheme is expected to have a negligible risk of introduction or spread of INNS, provided that appropriate biosecurity protocols are in place and consistently implemented.	Negligible adverse	None
Biodiversity, flora and fauna	1.4 To meet WFD objectives relating to biodiversity.	Small	Medium	Short-term	Temporary	Low (adverse)	Medium	Water abstraction may affect water availability in the natural environment. During operation, localised changes in groundwater quality may occur, including short-term increases in certain chemical parameters associated with drawdown, which could affect groundwater -dependent habitats. As the action is temporary, any such effects are expected to be minor and reversible. Discharging groundwater into the river may also create water -quality issues where groundwater and river water differ, which could adversely affect the river’s WFD ecological status.	Minor adverse	None
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Large	Medium	Short-term	Temporary	Low (beneficial)	Medium	Temporary, minor effects from noise, dust, and vibration may arise during the construction phase. Although these activities are expected to be small in scale and of short duration, there is some uncertainty regarding the extent and significance of potential effects due to the unknown locations of the boreholes, particularly in relation to Air Quality Management Areas (AQMAs), Noise Important Areas, or nearby residential receptors. These effects will be minimised through the use of best practice construction methods. In maintaining water supply, this action will provide a minor volumetric benefit and therefore help maintain a resilient water supply during drought conditions, supporting customer needs.	None	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Medium	Short-term	Temporary	Low (beneficial)	Low	Any effects on recreation, including potential effects on public access, would be minimised as far as practicable through best -practice construction methods. However, the lack of confirmed sites means some uncertainty remains regarding the extent and nature of potential effects. As water will be re-abstracted after discharge into the rivers, the action will not supplement flows and therefore benefits to water-based recreational sports are not anticipated. As it is designed to provide supply benefits before a Level of Service (LoS) 4 trigger is reached, it is unlikely that the abstracted water would be directly used to support recreational activities.	None	Negligible beneficial
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Small	Medium	Short-term	Temporary	Low (adverse)	Medium	No material disruption to economic activity during works. Implementation will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Minor beneficial
Material assets and resource use	3.1 To minimise waste, promote resource efficiency and move towards a circular economy.	Small	Low	Short-term	Temporary	Low (adverse) Low (beneficial)	Low (adverse) Medium (beneficial)	Any construction activities is anticipated to be minimal, and therefore only small amounts of waste are expected. All waste will be managed in line with standard construction waste protocols. The action also aims to be resource -efficient by making use of existing infrastructure wherever possible.	Negligible adverse	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	Small	Medium	Short-term	Temporary	Low (beneficial)	Medium	This drought action would enhance the efficiency of water resource management to support the maintenance of essential public water supplies during drought conditions.	None	Minor beneficial
Water	4.1 To maintain or improve the quality of surface and groundwater resources.	Small	Low	Short-term	Temporary	Low (adverse)	Medium	Any construction activities required would follow best -practice methods. During operation, localised changes in water quality and turbidity may occur, including short -term increases in chemical parameters associated with drawdown. In receiving rivers, significant differences in salinity, temperature and dissolved oxygen between groundwater and river water may also lead to water -quality issues. In recipient rivers, flow changes may cause temporary variations in water quality. Augmented flows can improve dilution during dry periods, but there is a risk of reduced surface water quality if abstracted groundwater is poor or mobilises contaminants. This risk will be mitigated by ceasing abstraction when water quality falls below acceptable standards. Overall, effects are expected to be short -term with no lasting effects on affected water bodies.	Minor adverse	None
Water	4.2 To protect and enhance surface and groundwater levels and flows.	Small	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Medium (adverse) Low (beneficial)	During operation, increased drawdown may lead to localised changes in groundwater levels. In recipient rivers, surface water flows will be temporarily augmented during drought conditions, helping to maintain local baseflows. As water will be re-abstracted after discharge into the rivers, this action will not result in a net increase in flows. There may be aquifer–river interaction since nearby boreholes would be used, leading to reduced river baseflow or alter groundwater gradients.	Minor adverse	Negligible beneficial
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources, including contributing to the achievement of WFD compliance objectives.	Small	Low	Short-term	Temporary	Low (adverse)	Medium	Risks to water quality and groundwater drawdown may impact ecosystem functions and compromise the achievement of WFD compliance objectives.	Minor adverse	None
Water	4.4 To promote water efficiency and actions that enable sustainable water use.	Small	Medium	Short-term	Temporary	Low (beneficial)	Low	While the action does not improve efficiency directly, it is part of a broader drought response promoting efficient water use.	None	Negligible beneficial
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and protect and enhance geodiversity and ensure appropriate and efficient use of land.	Small	Low	Short-term	Temporary	Low (adverse)	Low	Some construction may be required to connect nearby boreholes to the rivers. Minor works may cause localised soil disturbance. Using existing infrastructure will support efficient land use, and standard soil -management practices will be applied to minimise any disturbance.	Negligible adverse	None
Air and Climate	6.1 To maintain and improve air quality.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	Minor adverse effects on air quality may arise from construction works, vehicle movements and machinery use should construction be required. These impacts could be more pronounced in areas already sensitive to air quality. As specific locations have not yet been identified, the magnitude of potential effects remains uncertain. However, given the localised nature of the anticipated works and the application of best practice construction methods, any adverse impacts are expected to be negligible.	Negligible adverse	None
Air and climate	6.2 To reduce greenhouse gas emissions.	Small	Medium	Short-term	Temporary	Low (adverse)	Medium	A temporary increase in greenhouse gas emissions may be experienced from the use of vehicles and machinery should any construction be required. As the works are largely confined to existing infrastructure, embodied emissions are anticipated to be minimal. During operation, energy consumption will be required to support pumping from the boreholes.	Minor adverse	None
Air and climate	6.3 To consider the need for adaptive actions for climate change.	Small	Medium	Short-term	Temporary	Low (beneficial)	Medium	The drought action allows Anglian Water to diversify its water sources under drought conditions. Although this drought action does not change the capacity of the existing Anglian Water network, it will enhance reliability and drought resilience in the region.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	During construction, there may be temporary effects on the setting of nearby heritage assets or designated sites. However, some uncertainty remains as the exact locations of construction sites and their proximity to protected heritage features have not yet been confirmed. The action may require new licences. Depending on the licensed abstraction volumes, there is a potential risk of groundwater drawdown which could adversely affect water-logged archaeological deposits.	Negligible adverse	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, landscape character and visual amenity.	Small	Medium	Short-term	Temporary	Low (adverse)	Low	Temporary effects on the local landscape may occur during the construction phase. However, as construction activities are minor and short-term, these impacts are considered minimal. The exact locations of borehole sites are not yet confirmed and could be within designated or non-designated landscapes, including National Parks and National Landscapes. Any visual or landscape impacts are expected to be temporary.	Negligible adverse	None

Drought Plan Action:	Drought Permit and Orders
Description	Temporary increases to licences that have been reduced or revoked and identification of new sources of water in areas at risk. - Ability to abstract above licenced volume to support public water supply via drought permit or drought order - For licences that have been reduced, existing infrastructure and processes can be utilised. There is also proven yields and historical operation This action does not operate within the limits of existing abstraction licenses. Volumetric benefit: Moderate

SEA topics and objectives		Assessment of Drought Action									Residual adverse effect significance (likely to remain after reasonable mitigation)	Residual beneficial effect significance (likely to remain after reasonable mitigation)
Topic	Objective	Scale of effect: geographical &/or population affected (Small/Medium/Large)	Certainty of effect (Low/Medium/High)	Duration of effect (Short-term/Medium-term/Long-term)	Permanence of effect (Permanent/Temporary)	Magnitude of effect (Low/Medium/High)	Value/ sensitivity of receptor (Low/Medium/High)	Residual effect on sensitive receptors (assuming good practice construction methods) Commentary (construction and operation)				
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species), enhance ecosystem resilience and habitat connectivity.	Medium	Medium	Short-term	Temporary	Low (adverse)	Medium	The drought permit and orders extreme action may adversely impact designated sites, aquatic species, riparian habitats and ecosystem connectivity as temporary abstraction above normal licensed limits poses a risk of reduced flows, habitat degradation and pressure on sensitive species, particularly during drought when ecological resilience is already low. There may be small works needed to enable additional abstraction which may cause minor temporary disturbance. Overall, biodiversity effects are likely to be minor adv erse depending on location and permit conditions.	Minor adverse	None		
Biodiversity, flora and fauna	1.2 To protect and enhance sustainable natural resources and the ecosystem services they provide and deliver a biodiversity net gain.	Medium	Medium	Short-term	Temporary	Low (adverse)	Medium	Temporary abstraction above normal sustainable limits risks reducing water availability and degrading flow-dependent ecosystem services. There may be some minor construction involved with this action. The use of best-practise construction methods would minimise potential adverse effects on natural resources and the ecosystem services they support. A Biodiversity Net Gain (BNG) assessment has not been undertaken at this stage.	Minor adverse	None		
Biodiversity, flora and fauna	1.3 To avoid introducing or spreading INNS.	Small	Low	Short-term	Temporary	Low (adverse)	Low	This action presents a negligible risk of transferring or spreading INNS. Where small works are needed to enable additional abstraction there may be a risk of spread through equipment transfer and vehicle movements. With standard biosecurity measures applied, any residual risk remains very low.	Negligible adverse	None		
Biodiversity, flora and fauna	1.4 To meet WFD objectives relating to biodiversity.	Medium	Medium	Short-term	Temporary	Low (adversely)	Medium	Temporary increased abstraction may affect hydrology, water quality and flow-dependent habitats, posing short-term risks to WFD ecological and chemical objectives, although impacts are expected to be reversible and subject to regulatory controls and monitoring.	Minor adverse	None		
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Large	High	Short-term	Temporary	Low (adverse) Medium (beneficial)	Medium	Temporary effects from noise, vehicle movements, and localised dust may occur if small enabling works are required. These impacts would be short-term, and their significance is uncertain as specific locations and proximity to sensitive receptors are not yet known. Best-practise construction controls would help minimise any disturbance. By supporting additional abstraction during severe drought, this action helps maintain a resilient public water supply and therefore provides and important benefit for health and wellbeing.	Minor adverse	Moderate beneficial		
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Medium	Short-term	Temporary	Low (adverse)	Medium	Temporary disturbance to recreational users may occur where enabling works are required near public rights of way or paths. These effects would be short-term and localised, though the extent is uncertain as work locations are not yet confirmed. Best-practise construction controls would help minimise any disturbance. During operation, drought-permit abstraction could temporarily reduce river levels or flows, which may affect the recreational experience for activities such as angling, canoeing or boating. These changes would be reversible once abstraction returns to normal	Minor adverse	None		
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Medium	Medium	Short-term	Temporary	Medium (beneficial)	Medium	No material disruption to economic activity during works. Implementation will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Moderate beneficial		
Material assets and resource use	3.1 To minimise waste, promote resource efficiency and move towards a circular economy.	Medium	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Medium	Construction works may generate waste. All waste will be managed in accordance with standard construction waste protocols. The action aims to be resource-efficient by utilising existing infrastructure where possible.	Minor adverse	Minor beneficial		
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	Small	Medium	Short-term	Temporary	Low (beneficial)	Medium	This drought action would enhance the efficiency of water resource management to support the maintenance of essential public water supplies during drought conditions.	None	Minor beneficial		
Water	4.1 To maintain or improve the quality of surface and groundwater resources.	Medium	Low	Short-term	Temporary	Low (adverse)	Medium	Temporary increases in abstraction through drought permits or orders may lead to reduced river flows and lowered groundwater levels, which can decrease dilution capacity, elevate pollutant concentrations, and risk deterioration in water quality, particularly where environmental monitoring is limited. Minor construction works could also cause short-term sediment or pollution disturbance.	Minor adverse	None		
Water	4.2 To protect and enhance surface and groundwater levels and flows.	Medium	Medium	Short-term	Temporary	Low (adverse)	Medium	Temporary increases in abstraction under drought permits or orders are likely to reduce surface-water flows and lower groundwater levels during periods when they are already stressed, potentially hindering efforts to protect or enhance natural water availability.	Minor adverse	None		
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources, including contributing to the achievement of WFD compliance objectives.	Medium	Medium	Short-term	Temporary	Low (adverse) Medium (beneficial)	Medium	Temporary abstraction increases through drought permits and orders can help maintain public water supplies, supporting short-term resource resilience. However, they may put pressure on ecosystems that depend on stable flows and groundwater levels, increasing the risk of non-compliance with WFD objectives. Limited monitoring in new abstraction areas heightens uncertainty around ecological impacts.	Minor adverse	Moderate beneficial		
Water	4.4 To promote water efficiency and actions that enable sustainable water use.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	While the action does not directly improve water-use efficiency, it forms part of the wider drought management framework that promotes efficient and sustainable water use across the system.	None	Minor beneficial		
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and protect and enhance geodiversity and ensure appropriate and efficient use of land.	Small	Medium	Short-term	Temporary	Low (adverse)	Medium	Construction may be required, involving groundwork disturbing soils locally. As site locations are not yet confirmed, there is some uncertainty regarding proximity to geologically important sites or high-value agricultural land.	Minor adverse	None		
Air and Climate	6.1 To maintain and improve air quality.	Small	Medium	Short-term	Temporary	Low (adverse)	Medium	Minor adverse effects on air quality may arise from vehicle movements and machinery use during the construction phase. These effects could be more pronounced in areas already sensitive to air quality. As specific locations have not yet been identified, the magnitude of potential effects remains uncertain. However, given the small-scale nature of the anticipated works and the application of best practice construction methods, any adverse effects are expected to be minor.	Minor adverse	None		
Air and climate	6.2 To reduce greenhouse gas emissions.	Small	Medium	Short-term	Temporary	Low (adverse)	Medium	The construction phase is expected to generate a temporary increase in greenhouse gas emissions from the use of vehicles and machinery. The action would seek to utilise existing infrastructure where possible, reducing embodied emissions, resulting in a minor adverse effect.	Minor adverse	None		
Air and climate	6.3 To consider the need for adaptive actions for climate change.	Medium	High	Short-term	Temporary	Medium (beneficial)	Medium	The drought action allows Anglian Water to diversify its water sources under drought conditions. Although this drought action does not change the capacity of the existing Anglian Water network, it will enhance reliability and drought resilience in the region.	None	Moderate beneficial		
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Medium	Low	Short-term	Temporary	Low (adverse)	Low	During construction, there may be temporary effects on the setting of nearby heritage assets or designated sites. However, some uncertainty remains as to the exact locations of construction sites and their proximity to protected heritage features have not yet been confirmed. Construction activities will typically involve localised land clearance within existing infrastructure sites where possible.	Negligible adverse	None		
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, landscape character and visual amenity.	Medium	Low	Short-term	Temporary	Low (adverse)	Low	The exact locations of construction sites are not yet confirmed and could be within designated or non-designated landscapes, including National Parks and National Landscapes. Any visual or landscape effects are expected to be temporary.	Negligible adverse	None		

Drought Plan Action:	Temporary Treatment - UV Disinfection
Description	This action involves deploying temporary UV disinfection units at Water Treatment Works (WTWs) to maintain supply during extreme drought. UV treatment can be used to address microbiological risks where existing treatment capacity is constrained and may also enable other extreme drought actions where treatment adequacy is a barrier. UV is most effective at the end of the treatment process and may require wastewater return to the head of works. Implementation depends on site footprint, connection points, equipment availability, and regulatory compliance (e.g., materials in contact with drinking water). Works may require temporary hardstanding and installation of pipework and electrical connections. This action will operate within existing licences. Volumetric benefit: Negligible to major depending on how the action is implemented (Major has been assumed for this assessment)

SEA topics and objectives		Assessment of Drought Action									Residual adverse effect significance (likely to remain after reasonable mitigation)	Residual beneficial effect significance (likely to remain after reasonable mitigation)
Topic	Objective	Scale of effect: geographical &/or population affected (Small/Medium/Large)	Certainty of effect (Low/Medium/High)	Duration of effect (Short-term/Medium-term/Long-term)	Permanence of effect (Permanent/Temporary)	Magnitude of effect (Low/Medium/High)	Value/ sensitivity of receptor (Low/Medium/High)	Residual effect on sensitive receptors (assuming good practice construction methods) Commentary (construction and operation)				
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species), enhance ecosystem resilience and habitat connectivity.	Small	Medium	Medium-term	Temporary	Low (adverse)	Low	The exact scale and locations of this drought action are currently unknown, so potential proximity to designated sites cannot be assessed. The action is expected to involve only minor infrastructure, such as hardstanding for units and connections to existing Water Treatment Works (WTWs). Any construction activity would be confined to existing WTW infrastructure. Minor disturbance may occur during installation, but no direct interaction with habitats or species is anticipated, as all works would take place within established WTW boundaries. The action will support other extreme supply actions operating within existing licences, which are designed to protect environmental thresholds. As such, no net change in abstraction or the licensed hydrological balance is expected, and no significant flow -related impacts are anticipated.	Negligible adverse	None		
Biodiversity, flora and fauna	1.2 To protect and enhance sustainable natural resources and the ecosystem services they provide and deliver a biodiversity net gain.	Small	Medium	Medium-term	Temporary	Low (adverse)	Low	Construction activities are expected to be small -scale and short-lived, with best-practice methods helping to minimise effects on natural resources and associated ecosystem services. Some localised land clearance may be required for hardstanding, but this would occur within existing WTW boundaries, where there is limited scope for compensatory planting or habitat enhancement. A Biodiversity Net Gain (BNG) assessment has not been undertaken at this stage.	Negligible adverse	None		
Biodiversity, flora and fauna	1.3 To avoid introducing or spreading INNS.	N/A	N/A	N/A	N/A	N/A	N/A	It is not anticipated that this action will introduce or exacerbate the spread of INNS.	None	None		
Biodiversity, flora and fauna	1.4 To meet WFD objectives relating to biodiversity.	Small	Medium	Medium-term	Temporary	Low (adverse)	Low	As a supporting measure, this action is not expected to affect WFD biodiversity objectives, as abstractions remain within existing licensed volumes and no additional hydrological pressure is anticipated. However, as the precise locations and local sensitivities are not yet confirmed, a small degree of uncertainty remains regarding potential site -specific effects.	Negligible adverse	None		
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Medium	Medium	Medium-term	Temporary	High (beneficial)	Medium	The action supports the continuity of safe and reliable water supply during drought, which is essential for public health and wellbeing. By maintaining treatment capability and ensuring water remains compliant with drinking water standards, the action helps protect vulnerable customers and reduces the risk of service disruption. As works are confined to existing operational sites, no direct adverse effects on community health or amenity are anticipated. In supporting the existing yield, this action will provide up to a major volumetric benefit and therefore helps maintain a resilient water supply during drought conditions, supporting customer needs.	None	Major beneficial		
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Medium	Medium-term	Temporary	Low (adverse)	Low	The action is not expected to have any direct effects on recreational users, as all works take place within existing operational sites and do not interact with public access areas. Installation activities may generate minor noise or vehicle movements, but these would be short-lived and unlikely to affect recreational experience. Overall, no material effects on recreation are anticipated.	Negligible adverse	None		
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Medium	Medium	Medium-term	Temporary	High (beneficial)	Medium	The action helps maintain continuity of supply for households, businesses, and critical non -household customers during drought, supporting the resilience of local communities and the wider economy. As works are confined to existing operational sites and are temporary in nature, no adverse effects on economic activity or community assets are anticipated. Overall, the action contributes positively to community stability by reducing the risk of service disruption.	None	Major beneficial		
Material assets and resource use	3.1 To minimise waste, promote resource efficiency and move towards a circular economy.	Small	Medium	Medium-term	Temporary	Low (adverse)	Low	The action may generate small amounts of construction waste associated with installing temporary equipment, such as hardstanding, pipework, or electrical connections. However, the scale of works is limited, and most components are reusable or easily removed at the end of the deployment. Operational waste is minimal, and the action does not materially affect resource consumption beyond short -term use of materials for installation. Overall, any effects on waste generation or resource efficiency are expected to be negligible.	Negligible adverse	None		
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	Small	Medium	Medium-term	Temporary	Low (beneficial)	Medium	The action enhances the flexibility and resilience of existing treatment processes, enabling continued use of available water resources during extreme drought. By addressing treatment constraints, it supports the efficient utilisation of existing abstraction and distribution infrastructure without increasing overall demand on the resource. As the intervention is temporary and confined to operational sites, no adverse effects on wider water resource management are anticipated, and the action contributes positively to maintaining system efficiency under stressed conditions.	None	Minor beneficial		
Water	4.1 To maintain or improve the quality of surface and groundwater resources.	Small	Medium	Medium-term	Temporary	Low (adverse)	Low	UV disinfection enhances microbiological treatment and operates within existing WTW processes. Any wastewater generated would be returned to the head of works and managed through established treatment pathways, minimising the risk of downstream impacts. Installation activities may involve minor, short-term disturbance within the operational site, but these are unlikely to influence surface or groundwater quality. Overall, the action supports the maintenance of compliant drinking water standards during drought.	Negligible adverse	None		
Water	4.2 To protect and enhance surface and groundwater levels and flows.	N/A	N/A	N/A	N/A	N/A	N/A	The action is not expected to influence groundwater or surface water levels, as it does not involve any change to abstraction volumes or hydrological pathways. All activities take place within existing WTW boundaries and relate solely to treatment processes, meaning no interaction with watercourses, recharge areas, or groundwater bodies is anticipated. As a result, no effects on flow regimes or hydrological connectivity are expected.	None	None		
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources, including contributing to the achievement of WFD compliance objectives.	Small	Medium	Medium-term	Temporary	Low (adverse) Medium (beneficial)	Low (adverse) Medium (beneficial)	Construction would involve minor groundworks, temporary hardstanding, pipework/electrical works within existing site footprint. Very low pollution risk with standard controls. The action will not alter abstraction patterns or volumes and therefore does not affect sustainable abstraction or WFD objectives. By enabling continued use of existing sources, it supports operational resilience without increasing environmental pressure.	Negligible adverse	Moderate beneficial		
Water	4.4 To promote water efficiency and actions that enable sustainable water use.	Small	Medium	Medium-term	Temporary	Low (beneficial)	Low	The action supports overall water efficiency by enabling continued use of existing abstraction and treatment capacity during periods of extreme drought. By addressing treatment constraints rather than increasing demand on the resource, it helps ensure that available water is used as effectively as possible within the existing system. The action doesn't directly target demand-side efficiency. The action is primarily a water treatment solution supporting other actions, therefore unless supported by public communications or campaigns, it's unlikely to drive behavioural change or awareness.	None	Negligible beneficial		
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and protect and enhance geodiversity and ensure appropriate and efficient use of land.	Small	Medium	Medium-term	Temporary	Low (adverse)	Low	The action may require minor ground disturbance, such as creating hardstanding or installing connections within the WTW boundary. These activities are small -scale, reversible, and confined to previously developed land, meaning no interaction with natural soils or geodiversity features is expected. Any effects would be short -term and negligible, with no lasting impact on soil function or geological interest.	Negligible adverse	None		
Air and Climate	6.1 To maintain and improve air quality.	Small	Medium	Medium-term	Temporary	Low (adverse)	Low	Installation of temporary UV equipment may generate minor, short -term emissions from construction vehicles and site traffic, but these would be limited in scale and confined to the WTW boundary. No ongoing operational emissions are expected beyond normal site activity, and no meaningful effects on local air quality are anticipated.	Negligible adverse	None		
Air and climate	6.2 To reduce greenhouse gas emissions.	Small	Medium	Medium-term	Temporary	Low (adverse)	Low	The action will result in a small increase in energy use due to the power demand of the UV units, but this is modest relative to overall WTW consumption and limited to the drought period. Construction-related emissions are minimal and short-lived. Overall, greenhouse gas impacts are expected to be negligible.	Negligible adverse	None		
Air and climate	6.3 To consider the need for adaptive actions for climate change.	Small	Medium	Medium-term	Temporary	High (beneficial)	Medium	By enhancing treatment resilience during extreme drought, the action supports climate adaptation objectives and helps maintain supply under water -stress conditions.	None	Major beneficial		
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	N/A	N/A	N/A	N/A	N/A	N/A	The action is not expected to affect the historic environment, as all works are confined to existing operational WTW sites with no known heritage assets within the areas of disturbance. Any installation activities, such as creating hardstanding or connecting equipment, are small -scale. Overall, no impacts on the historic environment are anticipated.	None	None		
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, landscape character and visual amenity.	N/A	N/A	N/A	N/A	N/A	N/A	The action involves temporary equipment located within established operational sites, where visual change is minimal and contained within an already industrialised setting. Any additional structures, such as UV units or associated hardstanding, are small in scale and short-term. As a result, no meaningful effects on landscape character or visual amenity are expected.	None	None		

Drought Plan Action:	Temporary Treatment
Description	This action involves deploying temporary nitrate-removal units and/or establishing additional blending configurations to maintain drinking water quality during extreme drought. It enables greater use of sources that require blending to manage nitrate concentrations and provides operational flexibility where existing treatment capacity is constrained. The action supports supply resilience and compliance with drinking water standards without increasing abstraction volumes. This action will operate within existing licences. Volumetric benefit: Moderate

SEA topics and objectives		Assessment of Drought Action									Residual adverse effect significance (likely to remain after reasonable mitigation)	Residual beneficial effect significance (likely to remain after reasonable mitigation)
Topic	Objective	Scale of effect: geographical &/or population affected (Small/Medium/Large)	Certainty of effect (Low/Medium/High)	Duration of effect (Short-term/Medium-term/Long-term)	Permanence of effect (Permanent/Temporary)	Magnitude of effect (Low/Medium/High)	Value/ sensitivity of receptor (Low/Medium/High)	Residual effect on sensitive receptors (assuming good practice construction methods and operation)	Commentary (construction and operation)			
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species), enhance ecosystem resilience and habitat connectivity.	Small	Medium	Medium-term	Temporary	Low (adverse)	Low	The exact scale and locations of this drought action are currently unknown, so potential proximity to designated sites cannot be assessed. The action is expected to involve only minor infrastructure, such as hardstanding for units and connections to existing Water Treatment Works (WTW). Any construction activity would be confined to existing WTW infrastructure. Minor disturbance may occur during installation, but no direct interaction with habitats or species is anticipated, as all works would take place within established WTW boundaries. The action operate within existing licences, which are designed to protect environmental thresholds. As such, no net change in abstraction or the licensed hydrological balance is expected, and no significant flow-related impacts are anticipated.		Negligible adverse	None	
Biodiversity, flora and fauna	1.2 To protect and enhance sustainable natural resources and the ecosystem services they provide and deliver a biodiversity net gain.	Small	Medium	Medium-term	Temporary	Low (adverse)	Low	Construction activities are expected to be small-scale and short-lived, with best-practice methods helping to minimise effects on natural resources and associated ecosystem services. Some localised land clearance may be required for hardstanding, but this would occur within existing WTW boundaries, where there is limited scope for compensatory planting or habitat enhancement. A Biodiversity Net Gain (BNG) assessment has not been undertaken at this stage.		Negligible adverse	None	
Biodiversity, flora and fauna	1.3 To avoid introducing or spreading INNS.	N/A	N/A	N/A	N/A	N/A	N/A	It is not anticipated that this action will introduce or exacerbate the spread of INNS.		None	None	
Biodiversity, flora and fauna	1.4 To meet WFD objectives relating to biodiversity.	Small	Medium	Medium-term	Temporary	Low (adverse)	Low	As a supporting measure, this action is not expected to affect WFD biodiversity objectives, as abstractions remain within existing licensed volumes and no additional hydrological pressure is anticipated. Blending and temporary nitrate removal occur within existing treatment processes and do not introduce new pressures on water bodies. A small degree of uncertainty remains until specific site locations and blending configurations are confirmed, but no pathway for ecological impact is anticipated.		Negligible adverse	None	
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Medium	Medium	Medium-term	Temporary	Medium (beneficial)	Medium	No adverse effects on community wellbeing are expected, as works are confined to operational sites. The action supports the continued provision of safe drinking water by managing nitrate concentrations during drought, thereby protecting public health. Ensuring compliance with drinking water standards reduces risks to vulnerable customers and maintains confidence in supply. In supporting the existing yield, this action will provide moderate volumetric benefit and therefore helps maintain a resilient water supply during drought conditions, supporting customer needs.		None	Moderate beneficial	
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Medium	Medium-term	Temporary	Low (adverse)	Low	No interaction with recreational areas or users is expected, as all works occur within existing WTW boundaries. Temporary installation activities may generate minor noise or vehicle movements, but these would be short-lived and unlikely to influence recreational experience		Negligible adverse	None	
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Medium	Medium	Medium-term	Temporary	Medium (beneficial)	Medium	By enabling continued use of available sources and expanding blending actions, the action supports supply resilience for households, businesses, and critical customers. No adverse effects on community assets or economic activity are anticipated, and the action contributes positively to maintaining service continuity during drought.		None	Moderate beneficial	
Material assets and resource use	3.1 To minimise waste, promote resource efficiency and move towards a circular economy.	Small	Medium	Medium-term	Temporary	Low (adverse)	Low	Minor construction waste may arise from installing temporary nitrate removal units or blending infrastructure, such as hardstanding or pipework. These works are small-scale, reversible, and largely involve reusable components. Operational waste is minimal, and overall effects on waste generation and resource efficiency are negligible.		Negligible adverse	None	
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	Small	Medium	Medium-term	Temporary	Low (beneficial)	Medium	The action improves operational flexibility by enabling greater use of sources that require blending or nitrate management. This supports efficient utilisation of existing abstraction and treatment capacity without increasing pressure on the water environment. No adverse effects on water resource management are anticipated.		None	Minor beneficial	
Water	4.1 To maintain or improve the quality of surface and groundwater resources.	Small	Medium	Medium-term	Temporary	Low (adverse)	Low	Installation works may cause minor, short-term disturbance within the site, but no material effects on surface or groundwater quality are expected. The action is designed to improve or maintain drinking water quality by managing nitrate concentrations. Blending and temporary treatment occur within established WTW processes, and any wastewater generated would be handled through existing systems.		Negligible adverse	None	
Water	4.2 To protect and enhance surface and groundwater levels and flows.	N/A	N/A	N/A	N/A	N/A	N/A	No changes to abstraction volumes or hydrological pathways are proposed. All activities occur within operational boundaries and relate solely to treatment and blending processes. No effects on groundwater or surface water levels or flows are anticipated.		None	None	
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources, including contributing to the achievement of WFD compliance objectives.	Small	Medium	Medium-term	Temporary	Low (adverse) Medium (beneficial)	Low (adverse) Medium (beneficial)	Construction would involve minor groundworks, temporary hardstanding, pipework/electrical works within existing site footprint. Very low pollution risk with standard controls. The action will not alter abstraction patterns or volumes and therefore does not affect sustainable abstraction or WFD objectives. By enabling continued use of existing sources, it supports operational resilience without increasing environmental pressure.		Negligible adverse	Moderate beneficial	
Water	4.4 To promote water efficiency and actions that enable sustainable water use.	Small	Medium	Medium-term	Temporary	Low (beneficial)	Low	The action enhances water efficiency by enabling optimal use of available sources during drought. By addressing nitrate constraints through blending or temporary treatment, it supports efficient deployment of existing resources without increasing demand. The action doesn't directly target demand-side efficiency. The action is primarily a water treatment solution supporting other actions, therefore unless supported by public communications or campaigns, it's unlikely to drive behavioural change or awareness.		None	Negligible beneficial	
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and protect and enhance geodiversity and ensure appropriate and efficient use of land.	Small	Medium	Medium-term	Temporary	Low (adverse)	Low	Minor ground disturbance may occur where temporary hardstanding or new connections are required. These works are small-scale, reversible, and confined to previously developed land within WTWs. No interaction with natural soils or geodiversity features is expected.		Negligible adverse	None	
Air and Climate	6.1 To maintain and improve air quality.	Small	Medium	Medium-term	Temporary	Low (adverse)	Low	Temporary installation works may generate minor emissions from construction vehicles and site traffic, but these would be short-lived and contained within the WTW boundary. No ongoing operational emissions beyond normal site activity are anticipated.		Negligible adverse	None	
Air and climate	6.2 To reduce greenhouse gas emissions.	Small	Medium	Medium-term	Temporary	Low (adverse)	Low	Construction-related emissions are minimal. Temporary nitrate removal units may increase energy consumption slightly, depending on the technology deployed. This increase is modest relative to overall WTW energy use and limited to the drought period. Overall GHG impacts are negligible.		Negligible adverse	None	
Air and climate	6.3 To consider the need for adaptive actions for climate change.	Small	Medium	Medium-term	Temporary	Medium (beneficial)	Medium	The action supports climate adaptation by increasing operational flexibility and enabling continued use of available sources under drought conditions.		None	Moderate beneficial	
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	N/A	N/A	N/A	N/A	N/A	N/A	No effects on the historic environment are anticipated, as all works occur within existing operational sites with no known heritage assets. Installation activities are small-scale and reversible, with no pathway for impacts on archaeological or built heritage features.		None	None	
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, landscape character and visual amenity.	N/A	N/A	N/A	N/A	N/A	N/A	Temporary treatment units and blending infrastructure are modest in scale and located within established operational sites. Visual change is minimal and short-term, with no meaningful effects on landscape character or visual amenity.		None	None	

Drought Plan Action:	Temporary Treatment - Iron or turbidity removal
Description	This action involves deploying temporary treatment units to remove iron and/or turbidity at existing WTWs where water quality constraints limit the ability to utilise certain sources during extreme drought. The intervention supports supply resilience by enabling continued or increased use of sources that would otherwise be restricted due to elevated iron or turbidity levels. Works may require temporary hardstanding, pipework, and electrical connections within the WTW boundary.
	This action will operate within existing licences.
	Volumetric benefit: Moderate

SEA topics and objectives		Assessment of Drought Action								
Topic	Objective	Scale of effect: geographical &/or population affected (Small/Medium/Large)	Certainty of effect (Low/Medium/High)	Duration of effect (Short-term/Medium-term/Long-term)	Permanence of effect (Permanent/Temporary)	Magnitude of effect (Low/Medium/High)	Value/ sensitivity of receptor (Low/Medium/High)	Residual effect on sensitive receptors (assuming good practice construction methods) Commentary (construction and operation)	Residual adverse effect significance (likely to remain after reasonable mitigation)	Residual beneficial effect significance (likely to remain after reasonable mitigation)
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species), enhance ecosystem resilience and habitat connectivity.	Small	Medium	Medium-term	Temporary	Low (adverse)	Low	The exact scale and locations of this drought action are currently unknown, so potential proximity to designated sites cannot be assessed. The action is expected to involve only minor infrastructure, such as hardstanding for units and connections to existing Water Treatment Works (WTW). Any construction activity would be confined to existing WTW infrastructure. Minor disturbance may occur during installation, but no direct interaction with habitats or species is anticipated, as all works would take place within established WTW boundaries. The action will support other extreme supply actions operating within existing licences, which are designed to protect environmental thresholds. As such, no net change in abstraction or the licensed hydrological balance is expected, and no significant flow-related impacts are anticipated.	Negligible adverse	None
Biodiversity, flora and fauna	1.2 To protect and enhance sustainable natural resources and the ecosystem services they provide and deliver a biodiversity net gain.	Small	Medium	Medium-term	Temporary	Low (adverse)	Low	Construction activities are expected to be small-scale and short-lived, with best-practice methods helping to minimise effects on natural resources and associated ecosystem services. Some localised land clearance may be required for hardstanding, but this would occur within existing WTW boundaries, where there is limited scope for compensatory planting or habitat enhancement. A Biodiversity Net Gain (BNG) assessment has not been undertaken at this stage.	Negligible adverse	None
Biodiversity, flora and fauna	1.3 To avoid introducing or spreading INNS.	N/A	N/A	N/A	N/A	N/A	N/A	It is not anticipated that this action will introduce or exacerbate the spread of INNS.	None	None
Biodiversity, flora and fauna	1.4 To meet WFD objectives relating to biodiversity.	Small	Medium	Medium-term	Temporary	Low (adverse)	Low	As a supporting measure, this action is not expected to affect WFD biodiversity objectives, as abstractions remain within existing licensed volumes and no additional hydrological pressure is anticipated. However, as the precise locations and local sensitivities are not yet confirmed, a small degree of uncertainty remains regarding potential site-specific effects.	Negligible adverse	None
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Medium	Medium	Medium-term	Temporary	Medium (beneficial)	Medium	No adverse effects on community wellbeing are expected, as works are confined to operational sites. The action supports the continued provision of safe drinking water by addressing iron and turbidity exceedances, thereby protecting public health. Ensuring compliance with drinking water standards reduces risks to vulnerable customers and maintains confidence in supply. In supporting the existing yield, this action will provide moderate volumetric benefit and therefore helps maintain a resilient water supply during drought conditions, supporting customer needs.	None	Moderate beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Medium	Medium-term	Temporary	Low (adverse)	Low	Temporary installation activities may generate minor noise or vehicle movements, but these would be short-lived and unlikely to influence recreational experience No interaction with recreational areas or users is expected, as all works occur within existing WTW boundaries.	Negligible adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Medium	Medium	Medium-term	Temporary	Medium (beneficial)	Medium	By enabling continued use of available sources and expanding blending actions, the action supports supply resilience for households, businesses, and critical customers. No adverse effects on community assets or economic activity are anticipated, and the action contributes positively to maintaining service continuity during drought.	None	Moderate beneficial
Material assets and resource use	3.1 To minimise waste, promote resource efficiency and move towards a circular economy.	Small	Medium	Medium-term	Temporary	Low (adverse)	Low	Minor construction waste may arise from installing temporary iron or turbidity removal units or blending infrastructure, such as hardstanding or pipework. These works are small-scale, reversible, and largely involve reusable components. Operational waste is minimal, and overall effects on waste generation and resource efficiency are negligible.	Negligible adverse	None
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	Small	Medium	Medium-term	Temporary	Low (beneficial)	Medium	The action improves operational flexibility by enabling greater use of sources limited by iron or turbidity constraints. This supports efficient utilisation of existing abstraction and treatment capacity without increasing pressure on the water environment. No adverse effects on water resource management are anticipated.	None	Minor beneficial
Water	4.1 To maintain or improve the quality of surface and groundwater resources.	Small	Medium	Medium-term	Temporary	Low (adverse)	Low	Installation works may cause minor, short-term disturbance within the site, but no material effects on surface or groundwater quality are expected. The action is designed to improve or maintain drinking water quality by managing iron and turbidity levels. All treatment will occur within established WTW processes, and any wastewater generated would be handled through existing systems.	Negligible adverse	None
Water	4.2 To protect and enhance surface and groundwater levels and flows.	N/A	N/A	N/A	N/A	N/A	N/A	No changes to abstraction volumes or hydrological pathways are proposed. All activities occur within operational boundaries and relate solely to treatment processes. No effects on groundwater or surface water levels or flows are anticipated.	None	None
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources, including contributing to the achievement of WFD compliance objectives.	Small	Medium	Medium-term	Temporary	Low (adverse) Medium (beneficial)	Low (adverse) Medium (beneficial)	Construction would involve minor groundworks, temporary hardstanding, pipework/electrical works within existing site footprint. Very low pollution risk with standard controls. The action will not alter abstraction patterns or volumes and therefore does not affect sustainable abstraction or WFD objectives. By enabling continued use of existing sources, it supports operational resilience without increasing environmental pressure.	Negligible adverse	Moderate beneficial
Water	4.4 To promote water efficiency and actions that enable sustainable water use.	Small	Medium	Medium-term	Temporary	Low (beneficial)	Low	The action enhances water efficiency by enabling optimal use of available sources during drought. It supports efficient deployment of existing resources without increasing demand. The action doesn't directly target demand-side efficiency. The action is primarily a water treatment solution supporting other actions, therefore unless supported by public communications or campaigns, it's unlikely to drive behavioural change or awareness.	None	Negligible beneficial
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and protect and enhance geodiversity and ensure appropriate and efficient use of land.	Small	Medium	Medium-term	Temporary	Low (adverse)	Low	Minor ground disturbance may occur where temporary hardstanding or new connections are required. These works are smallscale, reversible, and confined to previously developed land within WTWs. No interaction with natural soils or geodiversity features is expected.	Negligible adverse	None
Air and Climate	6.1 To maintain and improve air quality.	Small	Medium	Medium-term	Temporary	Low (adverse)	Low	Temporary installation works may generate minor emissions from construction vehicles and site traffic, but these would be short-lived and contained within the WTW boundary. No ongoing operational emissions beyond normal site activity are anticipated.	Negligible adverse	None
Air and climate	6.2 To reduce greenhouse gas emissions.	Small	Medium	Medium-term	Temporary	Low (adverse)	Low	Construction-related emissions are minimal. Temporary treatment units may increase energy consumption slightly, depending on the technology deployed. This increase is modest relative to overall WTW energy use and limited to the drought period. Overall GHG impacts are negligible.	Negligible adverse	None
Air and climate	6.3 To consider the need for adaptive actions for climate change.	Small	Medium	Medium-term	Temporary	Medium (beneficial)	Medium	The action supports climate adaptation by increasing operational flexibility and enabling continued use of available sources under drought conditions.	None	Moderate beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	N/A	N/A	N/A	N/A	N/A	N/A	No effects on the historic environment are anticipated, as all works occur within existing operational sites with no known heritage assets. Installation activities are small-scale and reversible, with no pathway for impacts on archaeological or built heritage features.	None	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, landscape character and visual amenity.	N/A	N/A	N/A	N/A	N/A	N/A	Temporary treatment units and blending infrastructure are modest in scale and located within established operational sites. Visual change is minimal and short-term, with no meaningful effects on landscape character or visual amenity.	None	None

Drought Plan Action:	Water Recycling - Advanced water recycling
Description	Advanced water recycling, diverting recycled water so that it can support an existing abstraction point. - Adds resilience to river systems to allow abstraction to continue. - Reduces environmental impact of abstraction. This action can operate within existing abstraction licenses, but some cases may require a discharge permit change and an increased licence volume. This action includes moderate levels of construction as new pipeline may be required alongside additional final effluent treatment units. Volumetric benefit: Moderate

SEA topics and objectives		Assessment of Drought Action							Residual adverse effect significance (likely to remain after reasonable mitigation)	Residual beneficial effect significance (likely to remain after reasonable mitigation)
Topic	Objective	Scale of effect: geographical &/or population affected (Small/Medium/Large)	Certainty of effect (Low/Medium/High)	Duration of effect (Short-term/Medium-term/Long-term)	Permanence of effect (Permanent/Temporary)	Magnitude of effect (Low/Medium/High)	Value/ sensitivity of receptor (Low/Medium/High)	Residual effect on sensitive receptors (assuming good practice construction methods) Commentary (construction and operation)		
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species), enhance ecosystem resilience and habitat connectivity.	Medium	Low	Short-term	Temporary	Low (adverse) Low (beneficial)	Medium	Implementation requires moderate construction, including new pipelines and potentially additional treatment units, which can disturb habitats during installation. As site locations are not yet confirmed, there is some uncertainty regarding proximity to ecological sensitive or designated habitats or species. Advanced water recycling could help protect biodiversity by improving the resilience of river systems and reducing the environmental impact of abstraction in overstressed catchments. By diverting recycled water to support an existing abstraction point, it may help maintain flows and reduce pressure on sensitive habitats and species during extreme drought. Altering discharge patterns can lead to reduced flows at the recycled water discharge point, which may affect local aquatic habitats unless carefully managed. This impact would be less in coastal areas. Implementation also requires moderate construction, including new pipelines and potentially additional treatment units, which can disturb habitats during installation.	Minor adverse	Minor beneficial
Biodiversity, flora and fauna	1.2 To protect and enhance sustainable natural resources and the ecosystem services they provide and deliver a biodiversity net gain.	Medium	Low	Short-term	Temporary	Low (adverse) Low (beneficial)	Medium	Construction activities associated with this action are expected to be short-term. The use of best-practice construction methods would minimise potential adverse effects on natural resources and the ecosystem services they support. Where new pipeline or additional final effluent treatment units are required, it may result in localised land clearance. This could also create opportunities for compensatory planting or habitat enhancement, resulting in minor beneficial effects. A Biodiversity Net Gain (BNG) assessment has not been undertaken at this stage.	Minor adverse	Minor beneficial
Biodiversity, flora and fauna	1.3 To avoid introducing or spreading INNS.	Medium	Medium	Short-term	Temporary	Low (adverse)	Medium	The development of moderate new infrastructure, including pipelines and any additional final effluent treatment units, may still require movement of equipment between sites, which can introduce a low risk of INNS transfer if appropriate biosecurity measures are not applied. Operation is unlikely to present a significant risk of introducing or spreading invasive non-native species (INNS), as it involves diverting recycled water to support an existing abstraction point rather than transferring water between catchments.	Minor adverse	None
Biodiversity, flora and fauna	1.4 To meet WFD objectives relating to biodiversity.	Medium	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Medium	Construction of new pipelines and any additional treatment units also introduces short-term disturbance to water environments that could temporarily affect ecological status. Advanced water recycling can help avoid ecological stress in drought-affected catchments by maintaining flows at existing abstraction points, which may support progress towards WFD biodiversity objectives. However, diverting recycled water away from its normal discharge location can alter local flow regimes, particularly in river environments, and may create pressures that need active management to avoid WFD deterioration. As the action may require changes to discharge permits and, in some cases, increased abstraction licence volumes, careful regulatory control would be needed to ensure WFD objectives are maintained.	Minor adverse	Minor beneficial
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Medium	Medium	Short-term	Temporary	Low (adverse) Medium (beneficial)	Medium	The moderate construction activities, including new pipelines and potential installation of additional effluent treatment units, may create short-term noise, visual disturbance, or temporary disruption to local areas, which could affect local amenity and access to the water environment. Advanced water recycling can support health and well-being by helping maintain reliable water supplies during extreme drought, reducing the likelihood of restrictions that could affect households, businesses, and essential services. The introduction of recycled water into the supply system also requires a full water quality risk assessment (DWSP) to ensure safety and manage any customer concerns about acceptability.	Minor adverse	Moderate beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Medium	Low	Short-term	Temporary	Low (adverse) Low (beneficial)	Low	The moderate construction requirements, including installation of new pipelines and potential final effluent treatment units, may cause short-term disturbance such as noise, visual impacts, or temporary access restrictions in areas that support recreation. This action is unlikely to directly enhance recreational opportunities, but by helping maintain flows at existing abstraction points during drought, it may indirectly support the quality of water environments valued for informal recreation. Any reduction in flow at the recycled water discharge point may also temporarily affect the recreational amenity of nearby rivers, though effects would be minimal in coastal locations.	Negligible adverse	Negligible beneficial
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Medium	Low	Short-term	Temporary	Low (adverse) Medium (beneficial)	Medium	The moderate construction works required, such as new pipelines and potential installation of additional treatment units, may cause temporary disruption in local areas, including traffic, noise, or visual impacts, but these effects are short-term and manageable with appropriate planning. Advanced water recycling can help by supporting continuity of water supply during extreme drought, helping households, businesses, and essential services maintain access to the water they need. Reliable supply also reduces the risk of operational constraints on industry and community infrastructure. Customer acceptance will also be an important factor in ensuring confidence in the measure.	Minor adverse	Moderate beneficial
Material assets and resource use	3.1 To minimise waste, promote resource efficiency and move towards a circular economy.	Small	Medium	Short-term	Temporary	Low (adverse) High (beneficial)	Medium	Construction works may generate waste. All waste will be managed in accordance with standard construction waste protocols. Advanced water recycling directly supports resource efficiency and the principles of a circular economy by re-using treated wastewater to sustain an existing abstraction point, reducing reliance on stressed freshwater sources and making more efficient use of available resources during drought. This approach helps minimise waste by returning high-quality recycled water to the system rather than discharging it to the environment. The action aims to be resource-efficient by utilising existing infrastructure where possible.	Minor adverse	Major beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	Medium	Medium	Short-term	Temporary	Medium (beneficial)	Medium	Advanced water recycling helps maintain supplies for homes and industry when existing catchments are under stress. By re-using treated wastewater to sustain an existing abstraction point, the action can reduce pressure on natural sources and contribute to more sustainable use of resources. However, because the measure may require changes to discharge permits and, in some cases, increases to abstraction licence volumes, its contribution to sustainable resource management depends on careful regulatory oversight to ensure that abstraction and discharge remain within environmentally acceptable limits.	None	Moderate beneficial
Water	4.1 To maintain or improve the quality of surface and groundwater resources.	Medium	Low	Short-term	Temporary	Low (adverse) Low (beneficial)	Medium	There may be minor water quality risks during the construction phase. Advanced water recycling can help protect water quality at supported abstraction points by increasing flows and improving dilution during drought, but diverting final effluent away from existing discharge locations may reduce river flows and locally worsen surface water quality, particularly inland. Where highly treated recycled water is introduced to rivers, differences in chemistry and residual contaminants must be carefully managed. New pipelines and treatment processes also introduce operational risks that could affect water quality if failures occur. These risks must be rigorously assessed and mitigated through DWSP processes.	Minor adverse	Minor beneficial
Water	4.2 To protect and enhance surface and groundwater levels and flows.	Medium	Low	Short-term	Temporary	Low (adverse) Low (beneficial)	Medium	New pipelines and operational changes also introduce a small risk of temporary flow disturbance during construction. Advanced water recycling can help maintain surface water flows at supported abstraction points during drought by providing additional, highly treated water to bolster river levels. However, diverting final effluent away from existing discharge locations may reduce flows in those receiving waters, potentially exacerbating low-flow conditions, particularly in inland catchments.	Minor adverse	Minor beneficial
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources, including contributing to the achievement of WFD compliance objectives.	Medium	Medium	Short-term	Temporary	Low (adverse) Medium (beneficial)	Medium	Advanced water recycling can support more sustainable abstraction during drought by supplementing river flows at key intake points, helping maintain supplies while reducing pressure on environmentally stressed sources. This can have beneficial effects on ecosystem functions and help safeguard progress towards WFD objectives. However, reducing final effluent flows at existing discharge locations may place additional stress on those water bodies, and any increase in abstraction enabled by the scheme must remain within sustainable limits.	Minor adverse	Moderate beneficial
Water	4.4 To promote water efficiency and actions that enable sustainable water use.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	While the action does not directly improve water-use efficiency, it forms part of the wider drought management framework that promotes efficient and sustainable water use across the system.	None	Minor beneficial
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and protect and enhance geodiversity and ensure appropriate and efficient use of land.	Medium	Medium	Short-term	Temporary	Low (adverse)	Medium	Construction may be required, involving groundwork disturbing soils locally. As site locations are not yet confirmed, there is some uncertainty regarding proximity to geologically important sites or high-value agricultural land.	Minor adverse	None
Air and Climate	6.1 To maintain and improve air quality.	Medium	Low	Short-term	Temporary	Low (adverse)	Medium	Minor adverse effects on air quality may arise from vehicle movements and machinery use during construction. These effects could be more pronounced in areas already sensitive to air quality. As specific locations have not yet been identified, the magnitude of potential effects remains uncertain. However, given the small-scale nature of the anticipated works and the application of best practice construction methods, any adverse effects are expected to be minor.	Minor adverse	None
Air and climate	6.2 To reduce greenhouse gas emissions.	Medium	Low	Short-term	Temporary	Low (adverse)	Medium	The construction phase is expected to generate a temporary increase in greenhouse gas emissions from the use of vehicles and machinery. Although the action would seek to utilise existing infrastructure where possible, the introduction of new assets means embodied emissions are significant, resulting in a minor adverse effect.	Minor adverse	None
Air and climate	6.3 To consider the need for adaptive actions for climate change.	Medium	Medium	Short-term	Temporary	Medium (beneficial)	Medium	The drought action allows Anglian Water to diversify its water sources under drought conditions. Although this drought action does not change the capacity of the existing Anglian Water network, it will enhance reliability and drought resilience in the region.	None	Moderate beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Small	Low	Short-term	Temporary	Low (adverse)	Low	During construction, there may be temporary effects on the setting of nearby heritage assets or designated sites. However, some uncertainty remains as the exact locations of construction sites and their proximity to protected heritage features have not yet been confirmed. Construction activities will typically involve localised land clearance within existing infrastructure sites where possible.	Negligible adverse	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, landscape character and visual amenity.	Small	Low	Short-term	Temporary	Low (adverse)	Low	The exact locations of construction sites are not yet confirmed and could be within designated or non-designated landscapes, including National Parks and National Landscapes. Any visual or landscape effects are expected to be temporary.	Negligible adverse	None

Drought Plan Action:	Water Recycling - Water re-use
Description	Water re-use, diverting recycled water to support other water users, by increasing the amount of water available in the environment for public water supply and reducing the demand for water.
	This action can operate within existing abstraction licenses, but some cases may require a discharge permit change and an increased licence volume.
	This action includes moderate levels of construction as new pipeline may be required alongside additional final effluent treatment units.
	Volumetric benefit: Minor

SEA topics and objectives		Assessment of Drought Action									
Topic	Objective	Scale of effect: geographical &/or population affected (Small/Medium/Large)	Certainty of effect (Low/Medium/High)	Duration of effect (Short-term/Medium-term/Long-term)	Permanence of effect (Permanent/Temporary)	Magnitude of effect (Low/Medium/High)	Value/ sensitivity of receptor (Low/Medium/High)	Residual effect on sensitive receptors (assuming good practice construction methods) (construction and operation)	Commentary	Residual adverse effect significance (likely to remain after reasonable mitigation)	Residual beneficial effect significance (likely to remain after reasonable mitigation)
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species), enhance ecosystem resilience and habitat connectivity.	Medium	Low	Short-term	Temporary	Low (adverse) Low (beneficial)	Medium	Implementation requires moderate construction, including new pipelines and potentially additional treatment units, which can disturb habitats during installation. As site locations are not yet confirmed, there is some uncertainty regarding proximity to ecological sensitive or designated habitats or species. This water re-use action could help protect biodiversity by improving the resilience of river systems and reducing the environmental impact of abstraction in overstressed catchments. By diverting recycled water to support other water users, it may reduce pressure on existing water sources and help maintain flows for sensitive habitats and species during extreme drought. Altering discharge patterns can lead to reduced flows at the recycled water discharge point, which may affect local aquatic habitats unless carefully managed. This impact would be less in coastal areas.		Minor adverse	Minor beneficial
Biodiversity, flora and fauna	1.2 To protect and enhance sustainable natural resources and the ecosystem services they provide and deliver a biodiversity net gain.	Medium	Low	Short-term	Temporary	Low (adverse) Low (beneficial)	Medium	Construction activities associated with this action are expected to be short-term. The use of best-practice construction methods would minimise potential adverse effects on natural resources and the ecosystem services they support. Where new pipeline or additional final effluent treatment units are required, it may result in localised land clearance. This could also create opportunities for compensatory planting or habitat enhancement, resulting in minor beneficial effects. A Biodiversity Net Gain (BNG) assessment has not been undertaken at this stage.		Minor adverse	Minor beneficial
Biodiversity, flora and fauna	1.3 To avoid introducing or spreading INNS.	Medium	Medium	Short-term	Temporary	Low (adverse)	Medium	The development of moderate new infrastructure, including pipelines and any additional final effluent treatment units, may still require movement of equipment between sites, which can introduce a low risk of invasive non-native species (INNS) transfer if appropriate biosecurity measures are not applied. This action is unlikely to present a significant risk of introducing or spreading INNS, as it involves diverting recycled water to support other water users rather than transferring water between catchments.		Minor adverse	None
Biodiversity, flora and fauna	1.4 To meet WFD objectives relating to biodiversity.	Medium	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Medium	Construction of new pipelines and any additional treatment units also introduces short-term disturbance to water environments that could temporarily affect ecological status. Water re-use can help avoid ecological stress in drought-affected catchments by supporting other water users and reducing pressure on existing environmental sources, which may in turn support progress towards WFD biodiversity objectives. However, diverting recycled water away from its normal discharge location can alter local flow regimes, particularly in river environments, and may create pressures that need active management to avoid WFD deterioration. As the action may require changes to discharge permits and, in some cases, increased abstraction licence volumes, careful regulatory control would be needed to ensure WFD objectives are maintained.		Minor adverse	Minor beneficial
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Medium	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Medium	The moderate construction activities, including new pipelines and potential installation of additional effluent treatment units, may create short-term noise, visual disturbance, or temporary disruption to local areas, which could affect local amenity and access to the water environment. This action can support health and well-being by helping maintain reliable water supplies during extreme drought, reducing the likelihood of restrictions that could affect households, businesses, and essential services. The introduction of recycled water into the supply system also requires a full water quality risk assessment (DWSP) to ensure safety and manage any customer concerns about acceptability.		Minor adverse	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Medium	Low	Short-term	Temporary	Low (adverse) Low (beneficial)	Low	The moderate construction requirements, including installation of new pipelines and potential final effluent treatment units, may cause short-term disturbance such as noise, visual impacts, or temporary access restrictions in areas that support recreation. This action is unlikely to directly enhance recreational opportunities, but by supporting other water users during drought, it may indirectly help maintain the quality of water environments valued for informal recreation. Any reduction in flow at the recycled water discharge point may also temporarily affect the recreational amenity of nearby rivers, though effects would be minimal in coastal locations.		Negligible adverse	Negligible beneficial
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Medium	Low	Short-term	Temporary	Low (adverse) Low (beneficial)	Medium	The moderate construction works required, such as new pipelines and potential installation of additional treatment units, may cause temporary disruption in local areas, including traffic, noise, or visual impacts, but these effects are short-term and manageable with appropriate planning. Water re-use can help by supporting continuity of supply for other water users during extreme drought, helping businesses, agriculture, and essential services maintain access to the water they need. By reducing pressure on existing sources, this can also support wider system reliability and lessen the risk of operational constraints on industry and community infrastructure. Customer acceptance will also be an important factor in ensuring confidence in the measure.		Minor adverse	Minor beneficial
Material assets and resource use	3.1 To minimise waste, promote resource efficiency and move towards a circular economy.	Small	Medium	Short-term	Temporary	Low (adverse) High (beneficial)	Medium	Construction works may generate waste. All waste will be managed in accordance with standard construction waste protocols. The action aims to be resource-efficient by utilising existing infrastructure where possible. Water re-use directly supports resource efficiency and the principles of a circular economy by re-using treated wastewater to support other water users, reducing reliance on stressed freshwater sources and making more efficient use of available resources during drought. This approach helps minimise waste by returning high-quality recycled water to the system rather than discharging it to the environment.		Minor adverse	Major beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	Medium	Medium	Short-term	Temporary	Medium (beneficial)	Medium	Water re-use helps maintain supplies for other water users when existing catchments are under stress. By re-using treated wastewater to support other water users, the action can reduce pressure on natural sources and contribute to more sustainable use of resources. However, because the measure may require changes to discharge permits and, in some cases, increases to abstraction licence volumes, its contribution to sustainable resource management depends on careful regulatory oversight to ensure that abstraction and discharge remain within environmentally acceptable limits.		None	Moderate beneficial
Water	4.1 To maintain or improve the quality of surface and groundwater resources.	Medium	Low	Short-term	Temporary	Low (adverse) Low (beneficial)	Medium	There may be minor water quality risks during the construction phase. Water re-use can help protect water quality in supported areas by reducing pressure on existing water sources and helping maintain flows during drought, but diverting final effluent away from existing discharge locations may reduce river flows and locally worsen surface water quality, particularly inland. Where highly treated recycled water is introduced to rivers, differences in chemistry and residual contaminants must be carefully managed. New pipelines and treatment processes also introduce operational risks that could affect water quality if failures occur. These risks must be rigorously assessed and mitigated through DWSP processes.		Minor adverse	Minor beneficial
Water	4.2 To protect and enhance surface and groundwater levels and flows.	Medium	Low	Short-term	Temporary	Low (adverse) Low (beneficial)	Medium	New pipelines and operational changes also introduce a small risk of temporary flow disturbance during construction. Water re-use can help maintain surface water flows in supported areas during drought by reducing pressure on existing sources and allowing more water to remain in the environment. However, diverting final effluent away from existing discharge locations may reduce flows in those receiving waters, potentially exacerbating low-flow conditions, particularly in inland catchments.		Minor adverse	Minor beneficial
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources, including contributing to the achievement of WFD compliance objectives.	Medium	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Medium	Water re-use can support more sustainable abstraction during drought by reducing demand on environmentally stressed sources, helping maintain supplies for other water users while allowing more water to remain in the environment. This can have beneficial effects on ecosystem functions and help safeguard progress towards WFD objectives. However, reducing final effluent flows at existing discharge locations may place additional stress on those water bodies, and any increase in abstraction enabled by the scheme must remain within sustainable limits.		Minor adverse	Minor beneficial
Water	4.4 To promote water efficiency and actions that enable sustainable water use.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	While the action does not directly improve water-use efficiency, it forms part of the wider drought management framework that promotes efficient and sustainable water use across the system.		None	Minor beneficial
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and protect and enhance geodiversity and ensure appropriate and efficient use of land.	Medium	Medium	Short-term	Temporary	Low (adverse)	Medium	Construction may be required, involving groundwork disturbing soils locally. As site locations are not yet confirmed, there is some uncertainty regarding proximity to geologically important sites or high-value agricultural land.		Minor adverse	None
Air and Climate	6.1 To maintain and improve air quality.	Medium	Low	Short-term	Temporary	Low (adverse)	Medium	Minor adverse effects on air quality may arise from vehicle movements and machinery use during construction. These effects could be more pronounced in areas already sensitive to air quality. As specific locations have not yet been identified, the magnitude of potential effects remains uncertain. However, given the small-scale nature of the anticipated works and the application of best practice construction methods, any adverse effects are expected to be minor.		Minor adverse	None
Air and climate	6.2 To reduce greenhouse gas emissions.	Medium	Low	Short-term	Temporary	Low (adverse)	Medium	The construction phase is expected to generate a temporary increase in greenhouse gas emissions from the use of vehicles and machinery. Although the action would seek to utilise existing infrastructure where possible, the introduction of new assets means embodied emissions are significant, resulting in a minor adverse effect.		Minor adverse	None
Air and climate	6.3 To consider the need for adaptive actions for climate change.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	The drought action allows Anglian Water to diversify its water sources under drought conditions. Although this drought action does not change the capacity of the existing Anglian Water network, it will enhance reliability and drought resilience in the region.		None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Small	Low	Short-term	Temporary	Low (adverse)	Low	During construction, there may be temporary effects on the setting of nearby heritage assets or designated sites. However, some uncertainty remains as the exact locations of construction sites and their proximity to protected heritage features have not yet been confirmed. Construction activities will typically involve localised land clearance within existing infrastructure sites where possible.		Negligible adverse	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, landscape character and visual amenity.	Small	Low	Short-term	Temporary	Low (adverse)	Low	The exact locations of construction sites are not yet confirmed and could be within designated or non-designated landscapes, including National Parks and National Landscapes. Any visual or landscape effects are expected to be temporary.		Negligible adverse	None

Drought Plan Action:	Overland pipes
Description	Overland pipes involve installing temporary above-ground pipework to transfer water between locations during drought. These systems can move either potable or non-potable water and provide rapid, flexible support across District Zones, DMAs, or entire WRZs. Mobile booster pumps will be used to increase pressure. This action will operate within existing licences. Volumetric benefit: Major

SEA topics and objectives		Assessment of Drought Action								
Topic	Objective	Scale of effect: geographical &/or population affected (Small/Medium/Large)	Certainty of effect (Low/Medium/High)	Duration of effect (Short-term/Medium-term/Long-term)	Permanence of effect (Permanent/Temporary)	Magnitude of effect (Low/Medium/High)	Value/ sensitivity of receptor (Low/Medium/High)	Residual effect on sensitive receptors (assuming good practice construction methods) Commentary	Residual adverse effect significance (likely to remain after reasonable mitigation)	Residual beneficial effect significance (likely to remain after reasonable mitigation)
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species), enhance ecosystem resilience and habitat connectivity.	Medium	Medium	Short-term	Temporary	Medium (adverse)	Medium	While the exact scale and location of this drought action unknown, potential proximity to designated sites cannot be determined. The action is likely to involve temporary rural overland pipelines with supporting infrastructure and assets such as mobile boosters and security measures. Although most elements would be removed post-drought, features like pipeline corridors, abstraction points, or network connections may create permanent or semi-permanent environmental and planning impacts. The action may cross sensitive landscapes and watercourses, with potential effects on migratory fish and designated sites (SSSIs, SACs, LWSs), as well as habitat fragmentation. Given the uncertainty around scale and location, a moderate adverse effect is concluded. During operation, the use of the existing licences suggests minimal new hydrological pressures. As long as abstraction remains within licensed volumes, no likely significant flow-reduction impacts are anticipated.	Moderate adverse	None
Biodiversity, flora and fauna	1.2 To protect and enhance sustainable natural resources and the ecosystem services they provide and deliver a biodiversity net gain.	Medium	Medium	Short-term	Temporary	Medium (adverse) Low (beneficial)	Medium	The action improves drought resilience by enabling water transfers from less-stressed areas, helping to protect habitats vulnerable to water scarcity. However, installing large-diameter pipelines across rural areas may temporarily disrupt or fragment habitats, including water-dependent features and species. Abstraction and treatment may reduce environmental water availability at the source but will remain within existing licensed volumes. There is potential to offset natural capital losses or incorporate ecosystem enhancements, though no BNG assumptions are included at this stage due to the unknown scale and location of any measures.	Moderate adverse	Minor beneficial
Biodiversity, flora and fauna	1.3 To avoid introducing or spreading INNS.	Medium	High	Short-term	Temporary	Low (adverse)	Low	Construction and operational activities involving vehicle and equipment movement, ground disturbance, and water transfers, could pose a low risk of introducing or spreading INNS, particularly for non-potable water. With appropriate biosecurity measures and an INNS risk assessment and management plan, the overall effect is negligible adverse.	Negligible adverse	None
Biodiversity, flora and fauna	1.4 To meet WFD objectives relating to biodiversity.	Medium	Medium	Short-term	Temporary	Medium (adverse) Low (beneficial)	Medium	Construction activities may cause temporary disturbance to habitats and species, particularly where works occur within or near sensitive sites. During operation, abstractions will remain within existing licensed volumes, meaning no additional hydrological pressure is expected at the source. As there is no net change in licensed abstraction, significant flow-related impacts are unlikely, and the action may help relieve pressure on sensitive receptors in water-stressed areas. However, as the precise locations of the works have not yet been confirmed, some uncertainty remains regarding the specific nature and extent of potential effects.	Moderate adverse	Minor beneficial
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Medium	Medium	Short-term	Temporary	Low (adverse) High (beneficial)	Medium	Water transfers to at-risk areas would support and improve health and well-being by strengthening the resilience of the public water supply. As the action is likely to occur mainly in rural locations, nuisance effects such as dust, noise, and vibration during construction are less likely. The proximity to AQMAs or Noise Action Planning Important Areas is currently unknown, but construction impacts would be minimised through best-practice methods. Operationally, the action would significantly enhance the reliability and resilience of the supply network. This represents a major benefit (with a major volumetric benefit expected), as the action would operate during extreme drought to deliver substantial volumes of water to several at-risk areas, directly supporting human health and well-being.	Minor adverse	Major beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Medium	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Medium	While the exact scale and location of this drought action is not known, and proximity to recreational sites/amenities cannot be determined at this stage, construction phase impacts will be temporary and will be mitigated through the implementation of standard good practice. The action will aim to protect existing recreational access and green infrastructure with post-construction reinstatement. Opportunities for minor enhancements (e.g. planting or habitat links) will be considered as part of the action delivery.	Minor adverse	Minor beneficial
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Medium	Medium	Short-term	Temporary	High (beneficial)	Medium	While the exact scale and location of this drought action are not known, there is the potential for short-term local employment during construction and stimulation of local procurement. Operation of this action is expected to lead to major beneficial effects that promote a sustainable economy and thriving communities with good access to services. The transfer of water to 'Areas at risk' will help to support a more resilient public water supply, in turn supporting the local economy and community, with no permanent adverse effects on the environment, provided best practice is followed.	None	Major beneficial
Material assets and resource use	3.1 To minimise waste, promote resource efficiency and move towards a circular economy.	Medium	Medium	Short-term	Temporary	Medium (adverse)	Low	Construction activities will generate excavated materials, packaging, and spoil. Standard best practice in construction waste management would be implemented (such as a Site Waste Management Plan), and recycling of inert waste will be maximised. There may be opportunities to reduce packaging/material inputs in procurement.	Minor adverse	None
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	Medium	Medium	Short-term	Temporary	Medium (beneficial)	Medium	Operation could lead to minor beneficial effects from more efficient management of water resources, helping to ensure the public water supply for homes and industry in those areas.	None	Moderate beneficial
Water	4.1 To maintain or improve the quality of surface and groundwater resources.	Medium	Medium	Short-term	Temporary	Low (adverse)	Medium	Construction may generate sediment runoff, hydrocarbons, or contaminants from machinery and disturbed soil, especially near watercourses. As the location of the interventions is not known at this stage, it is assumed that there may be watercourse crossings associated with the new pipelines and WFD waterbodies may be impacted. This assessment assumes that standard construction good practice would be implemented. Risk to designated bathing areas is unlikely based on a rural inland setting. Groundwater contamination risks (e.g., fuel spills, trenching) will be mitigated through standard controls. If both potable and non-potable water is transferred appropriately and securely, operational risk is low.	Minor adverse	None
Water	4.2 To protect and enhance surface and groundwater levels and flows.	Medium	Medium	Short-term	Temporary	Low (adverse)	Low	Because the action uses existing abstraction licences, no additional flow-related pressures are expected.	Negligible adverse	None
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources, including contributing to the achievement of WFD compliance objectives.	Medium	Medium	Short-term	Temporary	High (beneficial)	Medium	The action is assumed to be consistent with licence conditions, WFD objectives, and CAMS targets. It supports drought resilience by allowing flexible redistribution of water, reducing pressure on stressed catchments.	None	Major beneficial
Water	4.4 To promote water efficiency and actions that enable sustainable water use.	Medium	Medium	Short-term	Temporary	High (beneficial)	Low	As a water transfer action that can be activated during drought, it inherently allows for operational flexibility. Infrastructure (e.g. pipelines and mobile boosters) can be adapted to respond to environmental triggers. While the action increases resilience and redistribution, it doesn't directly target demand-side efficiency. The action is primarily an infrastructure solution and long-term behavioural change would require additional communications measures.	None	Major beneficial
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and protect and enhance biodiversity and ensure appropriate and efficient use of land.	Medium	Medium	Short-term	Temporary	Low (adverse)	Medium	As precise locations are unknown, impacts on designated geological sites cannot be determined but are typically avoided through routing. The action is unlikely to affect coastal geomorphology. Construction may temporarily disturb agricultural land (e.g., Grade 3), with reinstatement possible but with some risk to soil structure.	Minor adverse	None
Air and Climate	6.1 To maintain and improve air quality.	Medium	Medium	Short-term	Temporary	Low (adverse)	Medium	Construction may generate dust and emissions, but impacts are temporary and localised. Operational air quality impacts are negligible apart from indirect emissions from energy used for pumping.	Minor adverse	None
Air and climate	6.2 To reduce greenhouse gas emissions.	Medium	Medium	Short-term	Temporary	Low (adverse)	Medium	Construction is energy-intensive, but operational energy demands are relatively low. Use of renewable energy during operation is uncertain at this stage.	Minor adverse	None
Air and climate	6.3 To consider the need for adaptive actions for climate change.	Medium	Medium	Short-term	Temporary	High (beneficial)	Medium	The action directly supports climate resilience by enabling drought-time water transfers. Infrastructure is scalable and adaptable to future climate conditions.	None	Major beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Medium	Medium	Short-term	Temporary	Low (adverse)	Medium	Route uncertainty means a precautionary approach is applied. Linear works could pass near listed buildings, conservation areas, or parklands. Visual and physical impacts are typically temporary, but proximity to historic settings may degrade perceived landscape/townscape character. Careful route planning and avoidance of sensitive areas would limit these risks. Trenching may disturb buried archaeological remains, especially in unrecorded rural areas. Desk-based assessments and geophysical surveys are standard mitigation. Risk is localised but real and can be managed through watching briefs or rerouting. Low-lying rural areas could contain valuable paleoenvironmental deposits to be treated with care. Likelihood is route-dependent; risks can be reduced with survey, coring and micro-siting.	Minor adverse	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, landscape character and visual amenity.	Medium	Medium	Short-term	Temporary	Low (adverse)	Medium	Assuming rural routing, there may be temporary construction impacts on landscape character and access. Pipelines will be sub-surface, so long-term landscape impacts are minimal. Temporary effects on footpaths, hedgerows, and small woodlands are possible but reversible.	Minor adverse	None

Drought Plan Action:	Tankering
	Tankering involves transporting water by road tanker from one location to another to maintain water supply during drought. This action provides flexibility across the network (at District Zone, District Meter Area, or Water Resource Zone level), and can be used to transfer either potable or non-potable water depending on need. It also allows supply to be tailored and targeted to vulnerable and critical non-household customers.
Description:	All activities will operate within the limits of existing abstraction licences. Volumetric benefit: Major

SEA topics and objectives		Assessment of Drought Action								
Topic	Objective	Scale of effect: geographical &/or population affected (Small/Medium/Large)	Certainty of effect (Low/Medium/High)	Duration of effect (Short-term/Medium-term/Long-term)	Permanence of effect (Permanent/Temporary)	Magnitude of effect (Low/Medium/High)	Value/ sensitivity of receptor (Low/Medium/High)	Residual effect on sensitive receptors (assuming good practice construction methods) Commentary (construction and operation)	Residual adverse effect significance (likely to remain after reasonable mitigation)	Residual beneficial effect significance (likely to remain after reasonable mitigation)
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species), enhance ecosystem resilience and habitat connectivity.	Medium	Low	Short-term	Temporary	Low (adverse) Low (beneficial)	Low	No construction is associated with this action. During operation, Tankering will require heavy vehicles, leading to indirect effects on habitats and species including short-term disturbance associated with traffic, noise and vibration, impacts on air quality, noise, and spill risk. These effects are temporary and reversible. As abstraction remains within existing licence volumes, no additional hydrological pressure on sensitive habitats is expected. Tankering could help relieve pressure on water resources in deficit areas during drought, supporting aquatic ecosystems in an already drought-stressed environment. However, as specific locations have not yet been identified, the extent of potential effects remains uncertain.	Negligible adverse	Negligible beneficial
Biodiversity, flora and fauna	1.2 To protect and enhance sustainable natural resources and the ecosystem services they provide and deliver a biodiversity net gain.	Medium	Low	Short-term	Temporary	Low (adverse) Low (beneficial)	Low	There is no construction associated with this action so there will be limited opportunities for compensatory planting and habitat enhancement. The Biodiversity Net Gain (BNG) policy does not apply to projects where no groundworks, site clearance, or construction footprint will occur, and where there is no physical intervention that could impact existing habitats. Tankering could help ease pressure on water resources and support supply in deficit areas during drought, supporting ecosystem services. However, reliance on vehicle movements can produce temporary habitat disturbance along rural routes, and repeated access to loading points may compact soils or disturb vegetation. However, as specific locations have not yet been identified, the extent of potential effects remains uncertain.	Negligible adverse	Negligible beneficial
Biodiversity, flora and fauna	1.3 To avoid introducing or spreading INNS.	Medium	Medium	Short-term (adverse)	Temporary	Medium (adverse)	Low	Tankering activities may have a minor effect on the spread of INNS through vehicle and equipment movement, risk from non-potable water, and ground disturbance. Appropriate biosecurity measures and site-specific INNS management plans would be required to minimise the risk of spread of INNS.	Minor adverse	None
Biodiversity, flora and fauna	1.4 To meet WFD objectives relating to biodiversity.	Medium	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Low	Tankering involves no new abstraction and remains within licensed volumes, so no flow-related WFD deterioration is expected. Temporary risks may arise near WFD river waterbodies at loading points (e.g., localised disturbance, spills), but these can be fully mitigated with good operational controls. Conversely, Tankering may help relieve pressure on water resources in deficit areas during drought conditions, thereby contributing to the protection of aquatic ecosystems and maintaining natural flow levels in recipient areas.	Negligible adverse	Negligible beneficial
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Medium	Medium	Short-term	Temporary	Low (adverse) High (beneficial)	Medium	Temporary localised nuisance (noise, air pollution, increased traffic) may occur along tanker routes and at loading points. These impacts are short-term and can be minimised through routing, timing restrictions, and best practice operations. Tankering water to areas with supply deficits would support health and wellbeing by enhancing the resilience of the public water supply. In maintaining water supply, this action will provide a major volumetric benefit and therefore help maintain a resilient water supply during drought conditions, supporting customer needs. It is also possible for Tankering to tailor/target to vulnerable and critical non-household (NHH) customers.	Minor adverse	Major beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Medium	Low	Short-term	Temporary	Low (adverse) Low (beneficial)	Low	Potential temporary nuisance effects could result from increased road traffic due to tanker movements and at loading and unloading sites, through lighting and the power generators, particularly where these activities occur near formal or informal recreational sites. These effects are minor and reversible. No long-term impacts are expected. The action indirectly protects recreational water resources by maintaining public supply resilience.	Negligible adverse	Negligible beneficial
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Medium	Low	Short-term	Temporary	Low (adverse) High (beneficial)	Medium	Short-term employment and supply-chain benefits may arise from the need for drivers, logistics support, and tanker hire. Tankering water is expected to lead to major beneficial effects that promote a sustainable economy and support communities with good access to services. The transfer of water to areas with a water deficit will help to support a more resilient public water supply in these areas, in turn supporting the local economy and community development. Increased traffic and associated activities at loading and unloading sites may also cause temporary disruption to nearby businesses.	Minor adverse	Major beneficial
Material assets and resource use	3.1 To minimise waste, promote resource efficiency and move towards a circular economy.	Small	Medium	Short-term	Temporary	Low (adverse) Medium (beneficial)	Low	Tankering generates minimal physical waste but is inherently resource-intensive. Vehicle maintenance and cleaning will produce small quantities of washwater and consumables, managed through standard waste protocols. This action aims to be resource-efficient by utilising existing infrastructure, using the nearest water sources, and operating within the limits of existing licences.	Negligible adverse	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	Medium	Medium	Short-term	Temporary	Medium (beneficial)	Medium	Tankering water to areas with supply deficits could lead to beneficial effects from more efficient management of water resources helping to ensure the public water supply for homes and industry in those areas is maintained. Although not an efficient long-term action, it provides clear short-term benefits during drought.	None	Moderate beneficial
Water	4.1 To maintain or improve the quality of surface and groundwater resources.	Small	Low	Short-term	Temporary	Low (adverse)	Low	Risks to water quality are associated with accidental spills of fuel or transferred water at loading points or roadside incidents. Good practice, bundled refill areas, and emergency response planning will minimise this. Potential localised waterbody impacts are otherwise low. Operational transfer of potable and non-potable water is controlled and poses negligible contamination risk.	Negligible adverse	None
Water	4.2 To protect and enhance surface and groundwater levels and flows.	Small	Low	Short-term	Temporary	Low (adverse) Medium (beneficial)	Low	As operations remain within licensed abstraction limits, no additional hydrological pressure is expected. Tankering does not alter catchment flows except indirectly through redistribution, which remains within existing allocations.	Negligible adverse	Minor beneficial
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources, including contributing to the achievement of WFD compliance objectives.	Medium	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Low	Risks to water quality are associated with accidental spills of fuel or transferred water at loading points or roadside incidents. Good practice, bundled refill areas, and emergency response planning will minimise this. Potential localised waterbody impacts are otherwise low. As Tankering uses existing abstraction licences, no additional hydrological pressure is expected and thus it is consistent with WFD, CAMS and RBMP objectives. Tankering provides resilience by moving water to stressed areas without increasing abstraction overall.	Negligible adverse	Negligible beneficial
Water	4.4 To promote water efficiency and actions that enable sustainable water use.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Low	While the action does not improve efficiency directly, it is part of a broader drought response accompanied by public campaigns promoting efficient water use. By improving operational flexibility, this action may indirectly support more sustainable water resource management.	None	Negligible beneficial
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and protect and enhance geodiversity and ensure appropriate and efficient use of land.	Medium	Medium	Short-term	Temporary	Low (adverse)	Low	Tankering will require the use of heavy vehicles, which may pose a risk of accidental spills. As vehicles are expected to use the existing road network, effects on soils and land use are considered negligible. Impacts are minor, temporary, and fully reversible with reinstatement. As refill and discharge locations are not yet confirmed, there is some uncertainty regarding proximity to geologically important sites or high-value agricultural land.	Negligible adverse	None
Air and Climate	6.1 To maintain and improve air quality.	Medium	Low	Short-term	Temporary	Low (adverse)	Medium	The transfer of water by Tankering could have moderate adverse effects to air quality caused by vehicle movements. Adverse effects would be larger in magnitude in areas sensitive to air quality pressures. As no specific area has been identified there is some uncertainty to the magnitude of this effect.	Minor adverse	None
Air and climate	6.2 To reduce greenhouse gas emissions.	Medium	Low	Short-term	Temporary	Low (adverse)	Medium	Tankering is carbon-intensive compared to fixed infrastructure due to heavy vehicle fuel consumption. However, the scale and duration of implementation are currently uncertain, which may influence the overall effect. Operational emissions may be significant depending on scale and duration. Mitigation is limited except through routing efficiency or alternative fuels where available.	Minor adverse	None
Air and climate	6.3 To consider the need for adaptive actions for climate change.	Medium	Medium	Short-term	Temporary	High (beneficial)	Medium	The drought action allows Anglian Water to diversify its water sources under drought conditions. Although this drought action does not change the capacity of the existing Anglian Water network, it will enhance the reliability and resilience by allowing greater flexibility in targeted delivery to areas in a water deficit, as well as maximise the use of the current abstraction licenses.	None	Major beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Small	Low	Short-term	Temporary	Low (adverse)	Medium	Tankering relies on existing roads and infrastructure and therefore has minimal interaction with heritage assets. Temporary increases in traffic near designated sites may affect tranquility but not integrity. No ground disturbance means no archaeological risk.	Minor adverse	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, landscape character and visual amenity.	Small	Low	Short-term	Temporary	Low (adverse)	Medium	Tankering produces temporary visual and traffic-related disturbance in rural areas, particularly near reservoirs, boreholes or loading points. These impacts are short-term and reversible. No permanent landscape change is expected.	Minor adverse	None

Drought Plan Action:	Utilising other significant water bodies
Description	Potential to use 3rd party bodies of water. - New source aiming to support existing yield / minimise impact on water levels through period of stress. - Utilisation for river augmentation and to mitigate any environmental impact. - Offset non-potable supply to reserve resource for public water supply. Location, scale, and availability of third-party sources are currently unknown. Moderate construction is required- New pipework required to connect to Water Treatment Works Abstraction would require new licences Volumetric benefit: Minor to Moderate

SEA topics and objectives		Assessment of Drought Action										Residual adverse effect significance (likely to remain after reasonable mitigation)	Residual beneficial effect significance (likely to remain after reasonable mitigation)
Topic	Objective	Scale of effect: geographical &/or population affected (Small/Medium/Large)	Certainty of effect (Low/Medium/High)	Duration of effect (Short-term/Medium-term/Long-term)	Permanence of effect (Permanent/Temporary)	Magnitude of effect (Low/Medium/High)	Value/ sensitivity of receptor (Low/Medium/High)	Residual effect on sensitive receptors (assuming good practice construction methods) Commentary (construction and operation)					
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species), enhance ecosystem resilience and habitat connectivity.	Medium	Low	Short-term	Temporary	Medium (adverse) Low (beneficial)	Medium	New pipeline installation from the third-party source to the WTW introduces construction-phase terrestrial and riparian impacts (site clearance, trenching, temporary works areas, crossings). Where routes intersect hedgerows, field margins, riparian zones, or small woodlands, there is risk of habitat loss/fragmentation, disturbance to breeding birds, bats, amphibians, and invertebrates. Horizontal directional drilling (HDD) can reduce open-cut impacts at sensitive crossings but may not eliminate them. The exact locations and ecological sensitivities of potential third-party waterbodies are currently unknown. Many such sources (e.g., reservoirs, lakes, canals, quarry pools) support aquatic and riparian habitats and may be located near designated ecological sites. New abstraction may temporarily depress water levels, potentially affecting marginal vegetation, fish, amphibians, and invertebrates. If used for river augmentation, effects may be positive downstream by supporting low flows; however, abstraction at the donor site may cause localised adverse effects. With location uncertainty and new licence requirements, a precautionary moderate adverse effect is concluded.		Moderate adverse	Minor beneficial		
Biodiversity, flora and fauna	1.2 To protect and enhance sustainable natural resources and the ecosystem services they provide and deliver a biodiversity net gain.	Medium	Low	Short-term	Temporary	Medium (adverse) Low (beneficial)	Medium	Construction of the new pipelines can temporarily reduce habitat quality and connectivity and disturb soils supporting natural capital and ecosystem services. Ecosystem services may benefit in receiving catchments via maintained baseflows; however, Opportunities exist to include BNG (hedgerow reinstatement with net gain, habitat creation on easements), but benefits are not assumed at this stage.		Moderate adverse	Minor beneficial		
Biodiversity, flora and fauna	1.3 To avoid introducing or spreading INNS.	Medium	Medium	Short-term	Temporary	Medium (adverse)	Medium	Utilising other significant water bodies during an extreme drought introduces a clear risk of spreading invasive non-native species (INNS), as water transfers and temporary interconnections can unintentionally move them. The use of temporary pipelines, pumps and mobile boosters increases the potential for INNS transfer if equipment is not adequately cleaned or if source and receiving waters contain established invasive species. Overall, this scheme is expected to have a moderate risk of introduction or spread of INNS, provided that appropriate biosecurity protocols are in place and consistently implemented.		Moderate adverse	None		
Biodiversity, flora and fauna	1.4 To meet WFD objectives relating to biodiversity.	Medium	Medium	Short-term	Temporary	Medium (adverse) Low (beneficial)	Medium	Moderate works associated with temporary pipelines with supporting infrastructure and assets (including mobile boosters and associated security) has the potential to disturb habitats, alter local hydrology, and create short-term environmental pressures that could hinder progress towards achieving WFD objectives. In addition, construction or commissioning activities may temporarily disrupt flows, sediment pathways, or water quality, with knock-on effects on ecological status. With best-practice mitigation assumed, moderate adverse effects are anticipated.. This action may help relieve pressure on water bodies currently at risk of failing WFD biodiversity objectives by improving water availability and reducing reliance on overstressed catchments.		Moderate adverse	Minor beneficial		
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Medium	Medium	Short-term	Temporary	Low (adverse) Medium (beneficial)	Medium	Moderate works associated with temporary pipelines with supporting infrastructure and mobile boosters may generate shortterm disturbance, including noise, visual intrusion, and temporary impacts on access or amenity in affected areas. Utilising other significant water bodies can help maintain reliable water supplies during extreme drought. The use of non-potable water sources and the introduction of a new supply also requires a full water quality risk assessment (DWSP) to ensure water safety and address any public or customer concerns.		Minor adverse	Moderate beneficial		
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Medium	Low	Short-term	Temporary	Medium (adverse) Low (beneficial)	Low	Moderate works associated with temporary pipelines with supporting infrastructure and mobile boosters has the potential to cause shortterm disturbance to areas used for formal or informal recreation, including visual intrusion, temporary access restrictions, and reduced amenity value. This action is unlikely to directly enhance recreational opportunities, but it may help sustain water levels in sensitive catchments during drought, indirectly supporting the quality of water-dependent recreational environments.		Minor adverse	Negligible beneficial		
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Medium	Low	Short-term	Temporary	Low (adverse) Medium (beneficial)	Medium	Short-term moderate to major construction works may cause localised disruption to transport, access, or community spaces. Short-term employment/procurement benefits accrue during pipeline construction and commissioning. This action can provide benefits for the economy and communities by improving water supply resilience, reducing the likelihood of drought-related service restrictions, and supporting businesses, public services, and households that rely on secure water availability.		Minor adverse	Moderate beneficial		
Material assets and resource use	3.1 To minimise waste, promote resource efficiency and move towards a circular economy.	Small	Medium	Short-term	Temporary	Medium (adverse)	Medium	Moderate works associated with construction and deployment may increase material consumption, waste generation, and use of energy-intensive processes. In an extreme drought scenario these works will be completed relatively quickly, potentially reducing opportunities for material reuse, low-waste design, or optimised resource planning. With best-practice construction waste management assumed, minor to moderate adverse effects are anticipated, primarily during the construction phase.		Moderate adverse	None		
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	Medium	Medium	Short-term	Temporary	Medium (beneficial)	Medium	The new connection increases operational flexibility and helps maintain supply, improving system resilience and allowing river augmentation where needed.		None	Moderate beneficial		
Water	4.1 To maintain or improve the quality of surface and groundwater resources.	Medium	Low	Short-term	Temporary	Low (adverse) Low (beneficial)	Medium	The construction of pipelines with supporting infrastructure introduces risks of short-term impacts on local surface water quality, including disturbance, sediment mobilisation, or changes during commissioning. This action may indirectly help protect water quality in overstressed catchments by reducing reliance on existing sources during extreme drought, thereby limiting the risk of deterioration associated with low flows. The transfer of water between locations also necessitates a full water quality risk assessment (DWSP) to ensure that no contaminants or pathogens are introduced into the system.		Minor adverse	Minor beneficial		
Water	4.2 To protect and enhance surface and groundwater levels and flows.	Medium	Low	Short-term	Temporary	Low (adverse) Low (beneficial)	Medium	Moderate works associated with temporary pipelines with supporting infrastructure and mobile boosters may also cause shortterm disturbance to surface water environments during installation. This action may help protect surface water levels and flows in overstressed catchments during extreme drought by providing an alternative source to support existing yield and reduce abstraction pressure on sensitive locations. However, abstraction from third-party water bodies introduces the potential for localised reductions in water levels or altered flow conditions at donor sites, which could affect water-dependent habitats and downstream hydrology.		Minor adverse	Minor beneficial		
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources, including contributing to the achievement of WFD compliance objectives.	Medium	Medium	Short-term	Temporary	Low (adverse) Medium (beneficial)	Medium	The action requires new licences and robust licence constraints and adaptive management, risks will manage risks.		Minor adverse	Moderate beneficial		
Water	4.4 To promote water efficiency and actions that enable sustainable water use.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	The scheme improves operational flexibility but is not demand-side action. When used to offset non-potable demand, it can help reserve higher-quality resources for public supply, indirectly supporting efficient system use.		None	Minor beneficial		
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and protect and enhance geodiversity and ensure appropriate and efficient use of land.	Medium	Medium	Short-term	Temporary	Low (adverse)	Medium	Moderate works could cause ground disturbance, soil removal and temporary land take, which may adversely affect soil quality and local geodiversity. These impacts are generally short-term but more substantial in scale, and require robust site controls and reinstatement to minimise long-term effects.		Minor adverse	None		
Air and Climate	6.1 To maintain and improve air quality.	Medium	Low	Short-term	Temporary	Low (adverse)	Medium	Minor adverse effects on air quality may arise from vehicle movements and machinery use, and these could be more noticeable in areas already sensitive to poor air quality. As specific locations are unknown, the magnitude of effects remains uncertain, but with best-practice construction controls, any adverse effects are expected to remain minor.		Minor adverse	None		
Air and climate	6.2 To reduce greenhouse gas emissions.	Medium	Low	Short-term	Temporary	Low (adverse)	Medium	Greenhouse gas emissions may result from vehicle movements and machinery use as well as through embodied emissions. As specific locations are unknown, the magnitude of effects remains uncertain, but with best-practice construction controls, any adverse effects are expected to remain minor.		Minor adverse	None		
Air and climate	6.3 To consider the need for adaptive actions for climate change.	Medium	Medium	Short-term	Temporary	Medium (beneficial)	Medium	The drought action allows Anglian Water to diversify its water sources under drought conditions. Although this drought action does not change the capacity of the existing Anglian Water network, it will enhance reliability and drought resilience in the region.		None	Moderate beneficial		
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Small	Low	Short-term	Temporary	Medium (adverse)	Low	Moderate works could impact heritage sites, including potential disturbance to buried archaeology or changes to the setting of heritage assets. As locations are not yet defined, the scale of impact is uncertain, but appropriate surveys, avoidance measures and watching briefs would minimise risk, resulting in residual effects that are expected to be minor.		Minor adverse	None		
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, landscape character and visual amenity.	Small	Low	Short-term	Temporary	Medium (adverse)	Low	Moderate works could temporarily affect landscape character and visual amenity through the presence of machinery and ground disturbance, particularly in sensitive or designated areas. These impacts are short-term and reversible, and with appropriate siting, screening and reinstatement, any residual effects on landscape and visual quality are expected to be minor.		Minor adverse	None		

Drought Plan Action:	Supply schemes
Description	Acceleration of strategic actions outlined in WRMP and business plans. - Bringing new water sources or ways of distributing water online in a quicker fashion to support areas of risk e.g. changing the phasing of the Strategic Interconnector Programme. - Increase the efficiency of partially / fully completed planning processes. Moderate to Major construction works. All activities will operate within the limits of existing abstraction licences assuming licenses have been agreed for supply schemes. Volumetric benefit: Major

SEA topics and objectives		Assessment of Drought Action								
Topic	Objective	Scale of effect: geographical &/or population affected (Small/Medium/Large)	Certainty of effect (Low/Medium/High)	Duration of effect (Short-term/Medium-term/Long-term)	Permanence of effect (Permanent/Temporary)	Magnitude of effect (Low/Medium/High)	Value/ sensitivity of receptor (Low/Medium/High)	Residual effect on sensitive receptors (assuming good practice construction methods) Commentary (construction and operation)	Residual adverse effect significance (likely to remain after reasonable mitigation)	Residual beneficial effect significance (likely to remain after reasonable mitigation)
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species), enhance ecosystem resilience and habitat connectivity.	Medium	Low	Short-term	Temporary	Medium (adverse) Low (beneficial)	Medium	The moderate to major construction works and rapid deployment of new infrastructure, including overland connections, can cause disturbance to habitats, protected sites, and species. These may intersect features of biodiversity value including hedgerows, riparian corridors, priority habitats, and supporting infrastructure such as access tracks. Where schemes pass near designated sites (SSSIs, SACs, SPAs, LWSSs), temporary disturbance, fragmentation, and species displacement may occur. Above-ground constraints (e.g., road and rail) and compressed implementation timeframes increase the risk of disruption. In an extreme drought scenario, supply schemes may support biodiversity in areas currently under water-stress by reducing pressure on sensitive sources. As abstraction remains within licensed limits, major hydrological impacts on sensitive sites are unlikely. Overall, while this action can indirectly relieve ecological pressure, it carries potential adverse effects on biodiversity unless schemes are carefully sited, timed, and supported by robust environmental safeguards.	Moderate adverse	Minor beneficial
Biodiversity, flora and fauna	1.2 To protect and enhance sustainable natural resources and the ecosystem services they provide and deliver a biodiversity net gain.	Medium	Low	Short-term	Temporary	Medium (adverse) Low (beneficial)	Medium	Rapid construction or temporary overland infrastructure needed to bring new supplies online can disturb soils, habitats, and landscape functioning, and may temporarily reduce the quality or availability of ecosystem services at a local scale. Supply schemes can help protect natural resources by reducing pressure on overstressed catchments and improving longterm water security, thereby supporting the continued delivery of key ecosystem services. If biodiversity units are lost during construction, there may be minor opportunities for compensatory planting or habitat enhancement. At this stage of drought planning, the scale and location of any BNG measures remain uncertain and will depend on future design development; therefore, potential BNG benefits are not included in this assessment. Assuming construction activities required follow best-practice methods, moderate adverse effects are anticipated.	Moderate adverse	Minor beneficial
Biodiversity, flora and fauna	1.3 To avoid introducing or spreading INNS.	Medium	Medium	Short-term	Temporary	Medium (adverse)	Medium	Construction activities, equipment movement, and changes in water pathways increase opportunities for INNS introduction or transfer between catchments. Overall, this scheme is expected to have a moderate risk of introduction or spread of INNS, provided that appropriate biosecurity protocols are in place and consistently implemented.	Moderate adverse	None
Biodiversity, flora and fauna	1.4 To meet WFD objectives relating to biodiversity.	Medium	Medium	Short-term	Temporary	Medium (adverse) Low (beneficial)	Medium	The rapid construction and temporary overland connections required to bring new sources online can disturb habitats, affect local hydrology, and create short-term pressures that risk failing to achieve WFD objectives. Changes to flow, sediment pathways, or water quality during construction or commissioning may also affect ecological status. With best-practice mitigation assumed, moderate adverse effects are anticipated. Operation, assuming compliance with licence and design conditions, normally avoids deterioration and may improve resilience during drought.	Moderate adverse	Minor beneficial
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Medium	Medium	Short-term	Temporary	Low (adverse) High (beneficial)	Medium	Construction activities, temporary overland pipework, and changes to local water environments may cause short-term disturbance, traffic, noise, or visual impacts that affect local amenity value. Supply schemes can support health and well-being by helping maintain reliable water supplies during drought. There may also be risks to perceived or actual water quality during commissioning, requiring robust drinking water safety plan (DWSP) assessments.	Minor adverse	Major beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Medium	Low	Short-term	Temporary	Medium (adverse) Low (beneficial)	Low	Accelerated construction activities and temporary overland pipework can cause short-term disruption to paths, open spaces, and landscapes, potentially affecting both formal and informal recreation locally. These impacts are reversible, and reinstatement will restore pre-construction use. Supply schemes may help protect recreational opportunities in the wider area by maintaining water availability and reducing the likelihood of drought-related restrictions that affect rivers, canals, lakes, and associated recreational uses.	Minor adverse	Negligible beneficial
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Medium	Low	Short-term	Temporary	Low (adverse) High (beneficial)	Medium	Short-term moderate to major construction works and temporary overland infrastructure may cause localised disruption to transport, access, or community spaces. Construction will create temporary employment and procurement benefits. Supply schemes can provide strong benefits for the economy and communities by improving water supply resilience, reducing the likelihood of drought-related service restrictions, and supporting businesses, public services, and households that rely on secure water availability.	Minor adverse	Major beneficial
Material assets and resource use	3.1 To minimise waste, promote resource efficiency and move towards a circular economy.	Small	Medium	Short-term	Temporary	Medium (adverse)	Medium	Major or moderate construction generates materials (pipe, concrete, aggregates), excavated spoil, packaging and waste. With best-practice construction waste management assumed, minor to moderate adverse effects are anticipated, primarily during the construction phase. Supply schemes are unlikely to directly promote resource efficiency or circular-economy outcomes.	Moderate adverse	None
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	Medium	Medium	Short-term	Temporary	Medium (beneficial)	Medium	Accelerated schemes improve long-term supply resilience and optimise water transfer and distribution efficiency. They help stabilise supply for industry and households under drought.	None	Moderate beneficial
Water	4.1 To maintain or improve the quality of surface and groundwater resources.	Medium	Low	Short-term	Temporary	Low (adverse) Low (beneficial)	Medium	Supply schemes could have a minor impact on water quality. In the short term, accelerated construction and temporary overland connections may slightly increase risks of sediment runoff or pollution, and water-quality assessments may be undertaken with less time for full investigation. However, once operational, the schemes can reduce pressure on stressed catchments and improve resilience, helping to maintain or potentially improve long-term surface and groundwater quality.	Minor adverse	Minor beneficial
Water	4.2 To protect and enhance surface and groundwater levels and flows.	Medium	Low	Short-term	Temporary	Low (adverse) Low (beneficial)	Medium	As schemes are assumed to operate within agreed abstraction licences, no additional hydrological pressure should occur. Accelerated interconnectors may allow water to be redistributed away from stressed catchments, providing flow-related benefits.	Minor adverse	Minor beneficial
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources, including contributing to the achievement of WFD compliance objectives.	Medium	Medium	Short-term	Temporary	Low (adverse) High (beneficial)	Medium	The moderate to major construction anticipated may cause short-term disturbance to watercourses, or groundwater pathways, which can temporarily affect local flows or ecosystem functions. These effects are typically minor and temporary when managed under appropriate environmental controls and permitting. Supply schemes is likely to support more sustainable abstraction management by reducing reliance on stressed sources and enabling better distribution of water across the network. This can help protect ecosystem functions and contribute to achieving WFD objectives by preventing over-abstraction in sensitive catchments. It also operates within existing licenses, assuming licenses have been agreed for supply schemes which further supports the sustainable management of water resources.	Minor adverse	Major beneficial
Water	4.4 To promote water efficiency and actions that enable sustainable water use.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium	While these schemes primarily enhance supply, not demand-side reduction, the improved network behaviour, reduced leakage from new assets, and better transfer flexibility indirectly improve overall water system efficiency.	None	Minor beneficial
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and protect and enhance geodiversity and ensure appropriate and efficient use of land.	Medium	Medium	Short-term	Temporary	Low (adverse)	Medium	Moderate to major construction works are likely to cause ground disturbance, soil removal and temporary land take, which may adversely affect soil quality and local geodiversity. These impacts are generally short-term but more substantial in scale, and require robust site controls and reinstatement to minimise long-term effects.	Minor adverse	None
Air and Climate	6.1 To maintain and improve air quality.	Medium	Low	Short-term	Temporary	Medium (adverse)	Medium	Minor adverse effects on air quality may arise from vehicle movements and machinery use where construction is required, and these could be more noticeable in areas already sensitive to poor air quality. As specific locations are unknown, the magnitude of effects remains uncertain, but with best-practice construction controls, any adverse effects are expected to remain minor.	Moderate adverse	None
Air and climate	6.2 To reduce greenhouse gas emissions.	Medium	Low	Short-term	Temporary	Medium (adverse)	Medium	Major construction works entail significant embodied carbon and construction-phase emissions (fuel, materials, logistics). As specific locations are unknown, the magnitude of effects remains uncertain, but with best-practice construction controls, any adverse effects are expected to remain minor.	Moderate adverse	None
Air and climate	6.3 To consider the need for adaptive actions for climate change.	Medium	Medium	Short-term	Temporary	High (beneficial)	Medium	The drought action allows Anglian Water to diversify its water sources under drought conditions. Although this drought action does not change the capacity of the existing Anglian Water network, it will enhance reliability and drought resilience in the region.	None	Major beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Small	Low	Short-term	Temporary	Medium (adverse)	Low	Moderate to major construction activities may impact heritage sites, including potential disturbance to buried archaeology or changes to the setting of heritage assets. As locations are not yet defined, the scale of impact is uncertain, but appropriate surveys, avoidance measures and watching briefs would minimise risk, resulting in residual effects that are expected to be minor.	Minor adverse	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, landscape character and visual amenity.	Small	Low	Short-term	Temporary	Medium (adverse)	Low	Moderate to major construction activities may temporarily affect landscape character and visual amenity through the presence of machinery and ground disturbance, particularly in sensitive or designated areas. These impacts are short-term and reversible, and with appropriate siting, screening and reinstatement, any residual effects on landscape and visual quality are expected to be minor.	Minor adverse	None

Drought Plan Action:	Resource trading and transfers
Description	Short-term trades between companies / sectors. Plans to increase / decrease bulk supplies. - Could be potable water for use in supply or non- potable water for aquifer or river recharge. - Could utilise effluent re-use schemes from other suppliers. - Customer with potable supply can change for non-potable source to offset potable water demand. This action could operate within existing abstraction licences, or may require licence changes or temporary permissions depending on volumes, locations, and conditions of the transfer. This assessment assumes a moderate level of construction, including the installation of new pipelines and additional final effluent treatment units. Volumetric benefit: Moderate to Major

SEA topics and objectives		Assessment of Drought Action								Residual adverse effect significance (likely to remain after reasonable mitigation)	Residual beneficial effect significance (likely to remain after reasonable mitigation)
Topic	Objective	Scale of effect: geographical &/or population affected (Small/Medium/Large)	Certainty of effect (Low/Medium/High)	Duration of effect (Short-term/Medium-term/Long-term)	Permanence of effect (Permanent/Temporary)	Magnitude of effect (Low/Medium/High)	Value/ sensitivity of receptor (Low/Medium/High)	Residual effect on sensitive receptors (assuming good practice construction methods) Commentary (construction and operation)			
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species), enhance ecosystem resilience and habitat connectivity.	Medium	Low	Short-term	Temporary	Medium (adverse) Low (beneficial)	Medium	Where new pipeline connections or effluent treatment units are required, temporary construction impacts may affect terrestrial, riparian, or aquatic habitats through vegetation clearance, trenching, soil disturbance, and construction access. Resource trading and transfers may reduce pressure on stressed local sources and trades may help avoid over-abstraction impacts on sensitive sites and species. This action could also change local flow regimes through changing abstraction/discharge patterns may alter local habitat conditions, though trades operating within existing licences limit hydrological risks. The action can support ecosystem resilience by recharging aquifers or augmenting river flows, which may temporarily benefit downstream habitats.	Moderate adverse	Minor beneficial	
Biodiversity, flora and fauna	1.2 To protect and enhance sustainable natural resources and the ecosystem services they provide and deliver a biodiversity net gain.	Medium	Low	Short-term	Temporary	Medium (adverse) Low (beneficial)	Medium	Construction activities associated with this action are expected to be moderate (worst-case) and short-term. Where new pipeline or additional final effluent treatment units are required, it may result in localised land clearance. The use of best-practice construction methods would minimise potential adverse effects on natural resources and the ecosystem services they support. Works could also create opportunities for compensatory planting or habitat enhancement, resulting in minor beneficial effects. A Biodiversity Net Gain (BNG) assessment has not been undertaken at this stage. Short-term trades may relieve pressure on drought-stressed catchments by sourcing water from less sensitive areas, supporting ecosystem services.	Moderate adverse	Minor beneficial	
Biodiversity, flora and fauna	1.3 To avoid introducing or spreading INNS.	Medium	Medium	Short-term	Temporary	Medium (adverse)	Medium	Resource trading and transfers could increase the risk of introducing or spreading INNS through the movement of water especially between catchments/ regions, equipment, or infrastructure between catchments. Without strong biosecurity controls, transfers could unintentionally transport species' that threaten local biodiversity and ecological integrity.	Moderate adverse	None	
Biodiversity, flora and fauna	1.4 To meet WFD objectives relating to biodiversity.	Medium	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Medium	Construction activities may temporarily affect hydromorphology (bank disturbance, sediment mobilisation) where new intakes or pipelines are built. Resource trading and transfers can help avoid ecological stress in over-abstracted catchments, which may support WFD biodiversity objectives. Trades may support flow augmentation, with positive effects. However, transfers also introduce risks such as altered flow regimes, water quality changes, and the potential spread of invasive species, all of which could hinder achieving or maintaining WFD status.	Minor adverse	Minor beneficial	
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Medium	Medium	Short-term	Temporary	Low (adverse) High (beneficial)	Medium	Construction of small pipeline connections or treatment units may temporarily generate noise, dust and traffic impacts. Resource trading and transfers are likely to have a significant beneficial effect on health and wellbeing by helping maintain reliable water supplies during drought. Where potable supplies are substituted with non-potable sources for appropriate uses (e.g., industrial or recharge schemes), this can ease pressure on drinking water resources and help sustain amenity value in the water environment. However, there are potential adverse effects if transfers affect the flows/water quality of local rivers, wetlands or recreational waters, or if water quality risks are not fully controlled through drinking water safety plan (DWSP) assessments and operational regimes.	Minor adverse	Major beneficial	
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Medium	Low	Short-term	Temporary	Low (adverse) Low (beneficial)	Medium	Some recreational access or footpaths may face temporary restrictions if construction is required. Resource trading and transfers may help protect recreational opportunities during drought by maintaining water in levels in rivers and lakes. However, transfers can also have localised adverse effects where they change water levels or flows, potentially reducing the quality of angling, boating, bathing, and water access.	Minor adverse	Minor beneficial	
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Medium	Low	Short-term	Temporary	Low (adverse) High (beneficial)	Medium	Construction may generate short-term local employment and procurement benefits. Resource trading and transfers can support a sustainable economy by helping maintain reliable water supplies for households, businesses, and essential services during drought, reducing the risk of operational disruption and economic loss. By enabling short-term reallocation of water where it is most needed, the action strengthens community resilience and continuity of key services. Infrastructure works could temporarily affect local access or amenities. Overall, the action generally supports thriving communities, provided trades are carefully managed to avoid disproportionate impacts, such as reduced flows or water availability in donor areas.	Minor adverse	Major beneficial	
Material assets and resource use	3.1 To minimise waste, promote resource efficiency and move towards a circular economy.	Small	Medium	Short-term	Temporary	Low (adverse) Low (beneficial)	Medium	Where new infrastructure is required, moderate construction waste will arise (pipe offcuts, spoil, packaging, treatment equipment). All waste will be managed in accordance with standard construction waste protocols. The action aims to be resource-efficient by utilising existing infrastructure where possible.	Minor adverse	Minor beneficial	
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	Medium	Medium	Short-term	Temporary	Medium (beneficial)	Medium	This drought action would enhance the efficiency of water resource management to support the maintenance of essential public water supplies during drought conditions.	None	Moderate beneficial	
Water	4.1 To maintain or improve the quality of surface and groundwater resources.	Medium	Low	Short-term	Temporary	Low (adverse) Low (beneficial)	Medium	Construction activities near watercourses may generate sediment or hydrocarbon runoff. Resource trading and transfers could help protect water quality in receiving areas by reducing pressure on stressed sources during drought and supporting flow and dilution, but they also introduce risks where transferred water differs in quality, where final effluent is used, or where new pipelines and operational changes create potential for pollution incidents or sediment disturbance. Water quality risks must also be carefully managed through DWSP assessments and monitoring and blending protocols.	Minor adverse	Minor beneficial	
Water	4.2 To protect and enhance surface and groundwater levels and flows.	Medium	Low	Short-term	Temporary	Low (adverse) Low (beneficial)	Medium	Resource trading and transfers can help protect groundwater and surface-water levels in receiving areas by reducing reliance on stressed local sources during drought. Transfers can alter natural flow regimes, particularly where bulk supply movements are significant or where non-potable sources are used for recharge. Impacts would be limited where operation is within existing licence limits, but temporary licence changes may introduce new pressures depending on hydrology.	Minor adverse	Minor beneficial	
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources, including contributing to the achievement of WFD compliance objectives.	Medium	Medium	Short-term	Temporary	Low (adverse) High (beneficial)	Medium	Resource trading and transfers can support sustainable abstraction management by reducing pressure on locally stressed sources and helping maintain essential public water supplies, but they may also alter flow regimes in ways that affect ecosystem function. The movement of different water types (including final effluent or non-potable sources) requires careful regulation and monitoring to ensure compliance with WFD objectives and avoid adverse ecological effects. Where temporary licences or variations are required, sustainability depends on environmental monitoring, hands-off flow triggers, and catchment sensitivity.	Minor adverse	Major beneficial	
Water	4.4 To promote water efficiency and actions that enable sustainable water use.	Medium	Medium	Short-term	Temporary	Medium (beneficial)	Medium	Potable-to-non-potable switching directly supports efficient water use. Effluent reuse trades allow for use of secondary sources, reducing reliance on potable abstraction. The action also increases system optimisation potential.	None	Moderate beneficial	
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and protect and enhance geodiversity and ensure appropriate and efficient use of land.	Medium	Medium	Short-term	Temporary	Medium (adverse)	Medium	Construction may be required, involving groundwork disturbing soils locally. As site locations are not yet confirmed, there is some uncertainty regarding proximity to geologically important sites or high-value agricultural land. Effects are localised and reversible. Pipeline corridors would be reinstated.	Moderate adverse	None	
Air and Climate	6.1 To maintain and improve air quality.	Medium	Low	Short-term	Temporary	Low (adverse)	Medium	Minor adverse effects on air quality may arise from vehicle movements and machinery use during construction. These effects could be more pronounced in areas already sensitive to air quality. As specific locations have not yet been identified, the magnitude of potential effects remains uncertain. However, given the moderate scale nature of the anticipated works and the application of best practice construction methods, any adverse effects are expected to be minor.	Minor adverse	None	
Air and climate	6.2 To reduce greenhouse gas emissions.	Medium	Low	Short-term	Temporary	Low (adverse)	Medium	The construction phase is expected to generate a temporary increase in greenhouse gas emissions from the use of vehicles and machinery. Although the action would seek to utilise existing infrastructure where possible, the introduction of new assets means embodied emissions are significant, resulting in a minor adverse effect.	Minor adverse	None	
Air and climate	6.3 To consider the need for adaptive actions for climate change.	Medium	Medium	Short-term	Temporary	High (beneficial)	Medium	The drought action allows Anglian Water to diversify its water sources under drought conditions. Although this drought action does not change the capacity of the existing Anglian Water network, it will enhance reliability and drought resilience in the region.	None	Major beneficial	
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Small	Low	Short-term	Temporary	Medium (adverse)	Low	During construction, there may be temporary effects on the setting of nearby heritage assets or designated sites. However, some uncertainty remains as the exact locations of construction sites and their proximity to protected heritage features have not yet been confirmed. Construction activities will typically involve localised land clearance within existing infrastructure sites where possible.	Minor adverse	None	
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, landscape character and visual amenity.	Small	Low	Short-term	Temporary	Medium (adverse)	Low	The exact locations of construction sites are not yet confirmed and could be within designated or non-designated landscapes, including National Parks and National Landscapes. Any visual or landscape effects are expected to be temporary.	Minor adverse	None	

Drought Plan Action:	Loss Reduction
Description	Further optimise activities that reduce raw water losses. - Reduce the amount of water lost in the raw water process - maximising the water available. This assessment assumes a minor level of construction involving the excavation and repair of buried assets, and the refurbishment of pipelines, valves, raw water mains, screens, channels, and supply conduits. Volumetric benefit: Minor

SEA topics and objectives		Assessment of Drought Action								
Topic	Objective	Scale of effect: geographical &/or population affected (Small/Medium/Large)	Certainty of effect (Low/Medium/High)	Duration of effect (Short-term/Medium-term/Long-term)	Permanence of effect (Permanent/Temporary)	Magnitude of effect (Low/Medium/High)	Value/ sensitivity of receptor (Low/Medium/High)	Residual effect on sensitive receptors (assuming good practice construction methods) Commentary (construction and operation)	Residual adverse effect significance (likely to remain after reasonable mitigation)	Residual beneficial effect significance (likely to remain after reasonable mitigation)
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species), enhance ecosystem resilience and habitat connectivity.	Small	Medium	Long-term	Permanent	Low (adverse) Low (beneficial)	Medium	Minor excavation and temporary disturbance may occur at repair sites, potentially affecting field margins, hedgerows, riparian vegetation, or small habitat areas. Where assets intersect with designated sites or sensitive habitats, risk increases but will be addressed through micro-siting and method controls. Assuming the use of good practice construction methods, the impacts during the construction phase are anticipated to be minor. Reducing water losses at the WTW will, in turn, reduce the need for abstraction at source. This has the potential to deliver beneficial impacts by supporting improved flow conditions and reducing pressure on sensitive habitats and species.	Minor adverse	Minor beneficial
Biodiversity, flora and fauna	1.2 To protect and enhance sustainable natural resources and the ecosystem services they provide and deliver a biodiversity net gain.	Small	Medium	Long-term	Permanent	Low (adverse) Low (beneficial)	Medium	Repairs may disturb small areas of habitat and reduce ecological connectivity temporarily. It is recognised that minimising the volume of water lost within WTW will lessen the need for abstraction from Anglian Water's sources. This may result in beneficial effects by supporting natural resources and enhancing ecosystem services. There is not expected to be any scope for delivery or provision of Biodiversity Net Gain as part of this action.	Minor adverse	Minor beneficial
Biodiversity, flora and fauna	1.3 To avoid introducing or spreading INNS.	Small	Low	Short-term	Temporary	Low (adverse)	Low	Work on raw water channels, abstraction points, or pipes could disturb areas where INNS are present. Good practice protocols and cleaning of equipment will minimise spread risk.	Negligible adverse	None
Biodiversity, flora and fauna	1.4 To meet WFD objectives relating to biodiversity.	Medium	Medium	Long-term	Permanent	Low (adverse) Low (beneficial)	Medium	Repairs to raw water mains or abstraction infrastructure near watercourses may temporarily disturb hydromorphology or cause sediment mobilisation. Loss reduction in WTW will reduce the need for water abstraction from Anglian Water's sources, easing pressure on aquatic ecosystems. This will help maintain natural flow levels, prevent further ecological degradation, and support the resilience of habitats and species.	Minor adverse	Minor beneficial
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Large	Low	Long-term	Permanent	Medium (adverse) Low (beneficial)	Low (adverse) Medium (beneficial)	Minor localised nuisance may occur during repairs (noise, dust, traffic disruption). The application of best practice construction methods is expected to minimise any adverse effects. Loss reduction in WTW will help to ensure levels of service are maintained through enabling provision of water that would have otherwise been lost.	Minor adverse	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Low	Short-term	Temporary	Low (adverse)	Low	Minor disturbance and disruption to recreational amenities, such as temporary and localised increases in traffic, are anticipated during the construction phase due to small-scale works. However, as the specific locations of the WTW sites are not yet confirmed, the extent of potential impacts remains uncertain.	Negligible adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Medium	Medium	Long-term	Permanent	Low (adverse) Low (beneficial)	Medium	Construction impacts are minor and of short duration. This drought action will help maintain water supply reliability during drought conditions, supporting a resilient water supply for both customers and economic activity.	Minor adverse	Minor beneficial
Material assets and resource use	3.1 To minimise waste, promote resource efficiency and move towards a circular economy.	Small	Medium	Long-term	Permanent	Low (adverse) Low (beneficial)	Low	Some construction may be required, including the installation of new equipment and repairs, which could involve the use of raw materials and potentially lead to waste generation. Any waste would be managed in accordance with standard construction waste protocols. It is assumed that any necessary materials would be sourced locally. Water loss reduction in WTW will result in the decrease in the volume of water lost in the supply network and therefore the energy and chemicals used to treat it. The action will primarily utilise existing infrastructure, minimising the need for extensive new development.	Negligible adverse	Negligible beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	Small	High	Long-term	Permanent	Low (beneficial)	Medium	This drought action will help maintain water supply reliability during drought conditions, supporting a resilient water supply for both customers and economic activity.	None	Minor beneficial
Water	4.1 To maintain or improve the quality of surface and groundwater resources.	Medium	Medium	Long-term (beneficial) Short-term (adverse)	Permanent (beneficial) Temporary (adverse)	Medium (adverse) Low (beneficial)	Low	Excavation near raw water channels or mains may temporarily mobilise sediment or risk small-scale contamination. These risks are manageable with pollution prevention controls. The reduction in water lost will result in reduced requirement for abstraction at source, and therefore also mitigate any surface water quality effects associated with abstraction.	Minor adverse	Negligible beneficial
Water	4.2 To protect and enhance surface and groundwater levels and flows.	Medium	Medium	Long-term	Permanent	Low (beneficial)	Medium	Reducing raw water losses means less abstraction is required to achieve the same deployable output. This can reduce pressure on sensitive catchments, especially during drought.	None	Minor beneficial
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources, including contributing to the achievement of WFD compliance objectives.	Medium	High	Medium to Long-term	Permanent	Low (beneficial)	Medium	This action will have a beneficial impact on maintenance of water supplies, through reduced requirement for abstraction at source. This may have medium to long-term impacts on consumer water usage.	None	Minor beneficial
Water	4.4 To promote water efficiency and actions that enable sustainable water use.	Medium	High	Medium to Long-term	Permanent	Medium (beneficial)	Medium	Reducing water losses directly improves the efficiency of the water supply system by ensuring more of the treated water reaches customers. This reduces the volume of raw water abstraction required to meet demand, supporting sustainable use of water resources. The action also promotes responsible asset management and operational resilience, especially critical during drought periods.	None	Moderate beneficial
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and protect and enhance geodiversity and ensure appropriate and efficient use of land.	Small	Medium	Short-term	Temporary	Low (adverse)	Medium	Construction may be required, involving groundwork disturbing soils locally. As site locations are not yet confirmed, there is some uncertainty regarding proximity to geologically important sites or high-value agricultural land. Effects are localised and reversible. Pipeline works areas would be reinstated.	Minor adverse	None
Air and Climate	6.1 To maintain and improve air quality.	Small	Low	Short-term	Temporary	Low (adverse)	Medium	Minor adverse effects are anticipated as a result of dust emissions during the construction phase as the small-scale works will be limited to existing facilities.	Minor adverse	None
Air and climate	6.2 To reduce greenhouse gas emissions.	Small	Medium	Short-term (adverse) Long-term (beneficial)	Temporary (adverse) Permanent (beneficial)	Low (adverse) Low (beneficial)	Low (adverse) Medium (beneficial)	Vehicle trips during the construction phase may generate greenhouse gas emissions. Loss reduction within WTW will result in reduced water loss leading to long term associated energy savings (decreased greenhouse gas emissions associated with decreased need for water treatment and pumping).	Negligible adverse	Minor beneficial
Air and climate	6.3 To consider the need for adaptive actions for climate change.	Small	High	Long-term	Permanent	Low (beneficial)	Medium	Water loss reduction within WTW will enable the identification of inefficiencies, supporting resilient infrastructure planning for a changing climate.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Small	Medium	Short-term	Temporary	Low (adverse)	Medium	Small-scale excavations may intersect buried archaeology or lie near heritage assets. There is the potential for reduced requirement for abstraction at source, potentially reducing the magnitude of any drought related archaeology and cultural heritage impacts.	Minor adverse	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, landscape character and visual amenity.	Small	Medium	Short-term	Temporary	Low (adverse)	Medium	Visual impacts are temporary and limited to repair compounds, fencing, and machinery. No long-term effects once reinstatement is complete.	Minor adverse	None

APPENDIX E: QUALITY ASSURANCE

Guidance on SEA (ODPM, 2005) contains a Quality Assurance checklist to help ensure that the requirements of the SEA Regulations are met. The checklist is reproduced in **Table E-1** indicating where this Environmental Report meets the requirements.

Table E-1: Quality Assurance Checklist

Checklist item	Comments
Objectives and context	
The plan's or programme's purpose and objectives are made clear.	The purpose of the DP27 is set out in Sections 1.1 - 1.4 .
Environmental issues and constraints, including international environmental protection objectives, are considered in developing objectives and targets.	Objectives of other relevant plans and programmes are set out in Section 2.2 and Appendix A .
SEA objectives, where used, are clearly set out and linked to indicators and targets where appropriate.	Objectives are set out in Section 4.2 .
Links with other related plans, programmes and policies are identified and explained.	Links are identified in Section 2.2 and Appendix A .
Conflicts that exist between SEA objectives, between SEA and plan objectives and between SEA objectives and other plan objectives are identified and described.	Cumulative effects such as those associated with the DP27 and other plans are addressed in Section 6 .
Scoping	
Consultation Bodies are consulted in appropriate ways and at appropriate times on the content and scope of the Environmental Report.	This Scoping Report is a part of the consultation process required to meet the requirements of the SEA Regulations and has been circulated to consultees. Further consultation will be undertaken on the Environmental Report and DP27. The consultation process is described in Section 1.9 .
The assessment focuses on significant issues.	The scope of the assessment reflects the geographic extent of Anglian Water's water supply area and provides a comprehensive approach to assessment (reflecting the large number of interactions dependent on the continued supply of water) which enabled the subsequent assessment to determine which impacts would be considered significant.
Technical, procedural and other difficulties encountered are discussed; assumptions and uncertainties are made explicit.	Difficulties and assumptions are set out in Sections 1.2 , and 4.4 .
Reasons are given for eliminating issues from further consideration.	The proposed SEA objectives provide a comprehensive basis for assessment and no issues were eliminated at the Scoping stage.
Alternatives	
Realistic alternatives are considered for key issues, and the reasons for choosing them are documented.	The appraisal framework has been used to assess the drought actions.
Alternatives include 'do minimum' and/or 'business as usual' scenarios wherever relevant.	Assessment of alternatives (the drought actions) have been considered in the Environmental Report.
The environmental effects (both adverse and beneficial) of each alternative are identified and compared.	Assessment of alternatives (the drought actions) have been considered in the Environmental Report.

Checklist item	Comments
Inconsistencies between the alternatives and other relevant plans, programmes or policies are identified and explained.	Assessment of alternatives (the drought actions) have been considered in the Environmental Report.
Reasons are given for selection or elimination of alternatives.	Assessment of alternatives (the drought actions) have been considered in the Environmental Report.
Baseline information	
Relevant aspects of the current state of the environment and their likely evolution without the plan or programme are described.	The current state of the environment and predicted future baseline is set out in Section 3 and Appendix B for each SEA topic.
Environmental characteristics of areas likely to be significantly affected are described, including areas wider than the physical boundary of the plan area where it is likely to be affected by the plan.	The environmental characteristics of Anglian Water's water supply area, and bordering regions where appropriate, are described in Section 1.3 .
Difficulties such as deficiencies in information or methods are explained.	Difficulties and limitations are set out in Section 4.4 .
Prediction and evaluation of likely significant environmental effects	
Effects identified include the types listed in the Directive (biodiversity, population, human health, fauna, flora, soil, water, air, climate factors, material assets, cultural heritage and landscape), as relevant; other likely environmental effects are also covered, as appropriate.	Potential effects have been set out in Section 5, Section 6 and Appendix D .
Both beneficial and adverse effects are considered, and the duration of effects (short, medium or long-term) is addressed.	The nature and duration of potential effects have been set out in the Environmental Report, using an appraisal framework set out in Section 4 . Effects are assessed in Section 5, Section 6 and Appendix D .
Likely secondary, cumulative and synergistic effects are identified where practicable.	These effects have been identified in Section 6.
Inter-relationships between effects are considered where practicable.	These effects have been considered within the assessment in Section 5 and Appendix D and also in Section 6 of this Environmental Report where practicable.
The prediction and evaluation of effects makes use of relevant accepted standards, regulations, and thresholds.	Relevant standards have been used where appropriate in undertaking the assessment in the Environmental Report.
Methods used to evaluate the effects are described.	The Environmental Report includes information on the methods used for evaluation of potential effects in Section 4 .
Mitigation measures	
Measures envisaged to prevent, reduce and offset any significant adverse effects of implementing the plan or programme are indicated.	Mitigation measures for potential adverse effects have been incorporated into the assessment undertaken in preparing the Environmental Report, and are described in Section 7.1 .
Issues to be taken into account in project consents are identified.	Such mitigating measures, if required, will be highlighted against the drought actions. It is noted that Environmental Reports which include Environmental Management Plans have been prepared for most of the drought permit sites (see Section 1.6).
The Environmental Report	
Is clear and concise in its layout and presentation.	The Environmental Report is clear and concise. See Sections 1.7 and 1.8 .
Uses simple, clear language and avoids or explains technical terms.	The Environmental Report uses simple, clear language, and explains technical terms, as appropriate.

Checklist item	Comments
Uses maps and other illustrations where appropriate.	The Environmental Report has used maps and illustrations where appropriate.
Explains the methodology used.	SEA methodology has been described in Sections 1.7 and 4 .
Explains who was consulted and what methods of consultation were used.	The consultation strategy, including organisations and dates of consultation is included in Section 1.9 .
Identifies sources of information, including expert judgement and matters of opinion.	Sources of information have been detailed in various sections of the Environmental Report.
Contains a non-technical summary covering the overall approach to the SEA, the objectives of the plan, the main options considered, and any changes to the plan resulting from the SEA.	The Environmental Report includes a Non-Technical Summary.
Consultation	
The SEA is consulted on as an integral part of the plan-making process.	The Scoping Report and Environmental Report are part of the consultation process required to meet the requirements of the SEA Regulations. Both have been circulated to consultees. The consultation process is described in Section 1.9 .
Consultation Bodies and the public likely to be affected by, or having an interest in, the plan or programme are consulted in ways and at times which give them an early and effective opportunity within appropriate time frames to express their opinions on the draft plan and Environmental Report.	The Scoping Report and Environmental Report are part of the consultation process required to meet the requirements of the SEA Regulations. Both have been circulated to consultees. The consultation process is described in Section 1.9 .
Decision-making and information on the decision	
The environmental report and the opinions of those consulted are taken into account in finalising and adopting the plan or programme.	Consultation responses from the Scoping stage have been incorporated into the Environmental Report. Responses from consultation on the Environmental Report will be incorporated in the development of the final Environmental Report. After finalisation of the DP27, a statement will be published describing how the SEA and the responses to consultation have been taken into account during the preparation of the DP27. The consultation process is described in Section 1.9 .
An explanation is given of how they have been taken into account.	Consultation responses from the Scoping stage have been incorporated into the Environmental Report. Responses from consultation on the Environmental Report will be incorporated in the development of the final Environmental Report. After finalisation of the DP27, a statement will be published describing how the SEA and the responses to consultation have been taken into account during the preparation of the DP27. The consultation process is described in Section 1.9 .
Reasons are given for choosing the plan or programme as adopted, in the light of other reasonable alternatives considered.	This will be set out in the Final DP27 following consultation on the DP27 and Environmental Report.
Monitoring measures	
Measures proposed for monitoring are clear, practicable and linked to the indicators and objectives used in the SEA.	Section 7.2 provides an overview of proposals for monitoring.

Checklist item	Comments
Monitoring is used, where appropriate, during implementation of the plan or programme to make good deficiencies in baseline information in the SEA.	Suggestions for monitoring are made in Section 7.2 , with monitoring taking place following implementation of the DP27, further to consultation with regulatory authorities including the Environment Agency and Natural England.
Monitoring enables unforeseen adverse effects to be identified at an early stage. (These effects may include predictions which prove to be incorrect.)	Suggestions for monitoring are made in Section 7.2 , with monitoring taking place following implementation of the DP27, further to consultation with regulatory authorities including the Environment Agency and Natural England.
Proposals are made for action in response to significant adverse effects.	Mitigation measures for adverse effects are suggested in Section 7.1 .

E: info@ricardo.com

W: www.ricardo.com