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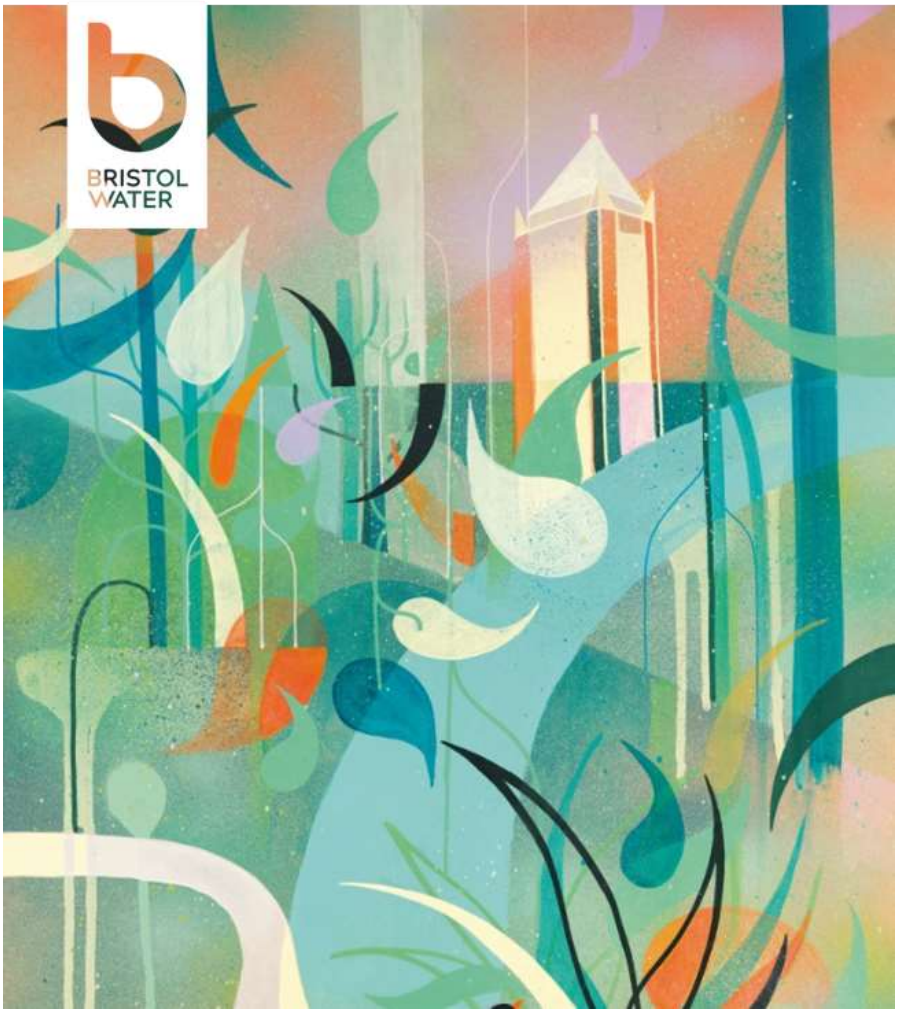

Bristol Water Draft Drought Plan

Strategic Environmental Assessment

Scoping Report

Report for Bristol Water

ED14443 for Bristol Water

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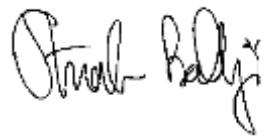

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1 Introduction

1.1 Background and Purpose of Report

Bristol Water published its current statutory Drought Plan in June 2018. Bristol Water is now in the process of developing an updated Drought Plan for publication in 2021 in line with the requirements of the Drought Plan (England) Direction 2020 and to align with updated regulatory guidance. Bristol Water plans to issue its draft Drought Plan 2021 for public consultation in March 2021 and is undertaking a Strategic Environmental Assessment (SEA) to inform development of its draft Drought Plan. Habitats Regulations Assessment (HRA) and Water Framework Directive (WFD) compliance assessment are also being undertaken in parallel to the SEA.

This Scoping Report marks a key initial stage of the SEA process setting out the baseline environmental conditions and the proposed approach to the SEA of the Drought Plan, the findings of which will be set out in an Environmental Report for public consultation. The Scoping Report also sets out how the assessment will influence and inform the development of the Drought Plan.

The SEA scoping process is important in setting the context for the SEA and allows for early engagement with the SEA statutory bodies and other stakeholders. This Scoping Report describes the current and future environmental and social baseline within the area that could be affected by the implementation of Bristol Water's Drought Plan and identifies key issues and objectives of plans and programmes that are potentially relevant to the development of the plan. The environmental baseline, key issues and objectives identified in this Scoping Report inform the development of the SEA objectives that will form the basis of the subsequent assessment.

Under Regulation 12(5) of the Environmental Assessment of Plans and Programmes Regulations 2004 (the "SEA Regulations"), when deciding upon the scope and level of detail of the information to be included in an Environmental Report, the authority responsible for the report is required to undertake consultation. This Scoping Report is therefore being issued to the SEA statutory bodies for England: Environment Agency (EA), Historic England (HE) and Natural England (NE). It is also being published on the Bristol Water website for wider consultation so that stakeholders have the opportunity to comment on the SEA at an early stage in its development and provide a basis for ongoing dialogue as the Drought Plan is developed.

1.2 Bristol Water Supply Area and Drought Planning

1.2.1 Introduction

In the event of severe drought, Bristol Water will need to implement a range of management measures to ensure the continued provision of essential water supplies to all of its customers. The Bristol Water Drought Plan 2021 will set out the measures that the company will consider implementing in dealing with drought conditions, taking account of statutory legislation and regulatory requirements. The Drought Plan will be updated in line with the requirements of the Drought Plan (England) Direction 2020 and in compliance with the Water Industry Act 1991 as amended by the Water Act 2003 and the Flood and Water Management Act 2010. The updated Drought Plan will take account of the latest regulatory guidance for drought planning, industry best practice guidance and experiences across the water industry from recent drought events. The Drought Plan will also consider the wider role Bristol Water plays in securing water supplies across the region.

The Drought Plan (England) Direction 2020 contains revised timeframes for submission of updated draft Drought Plans to the Secretary of State. For Bristol Water, this means that it must submit an updated draft Drought Plan before the 1st April 2021 which, once approved by the Secretary of State and published, will replace the existing Bristol Water Drought Plan published in June 2018.

1.2.2 Bristol Water's Water Supply System

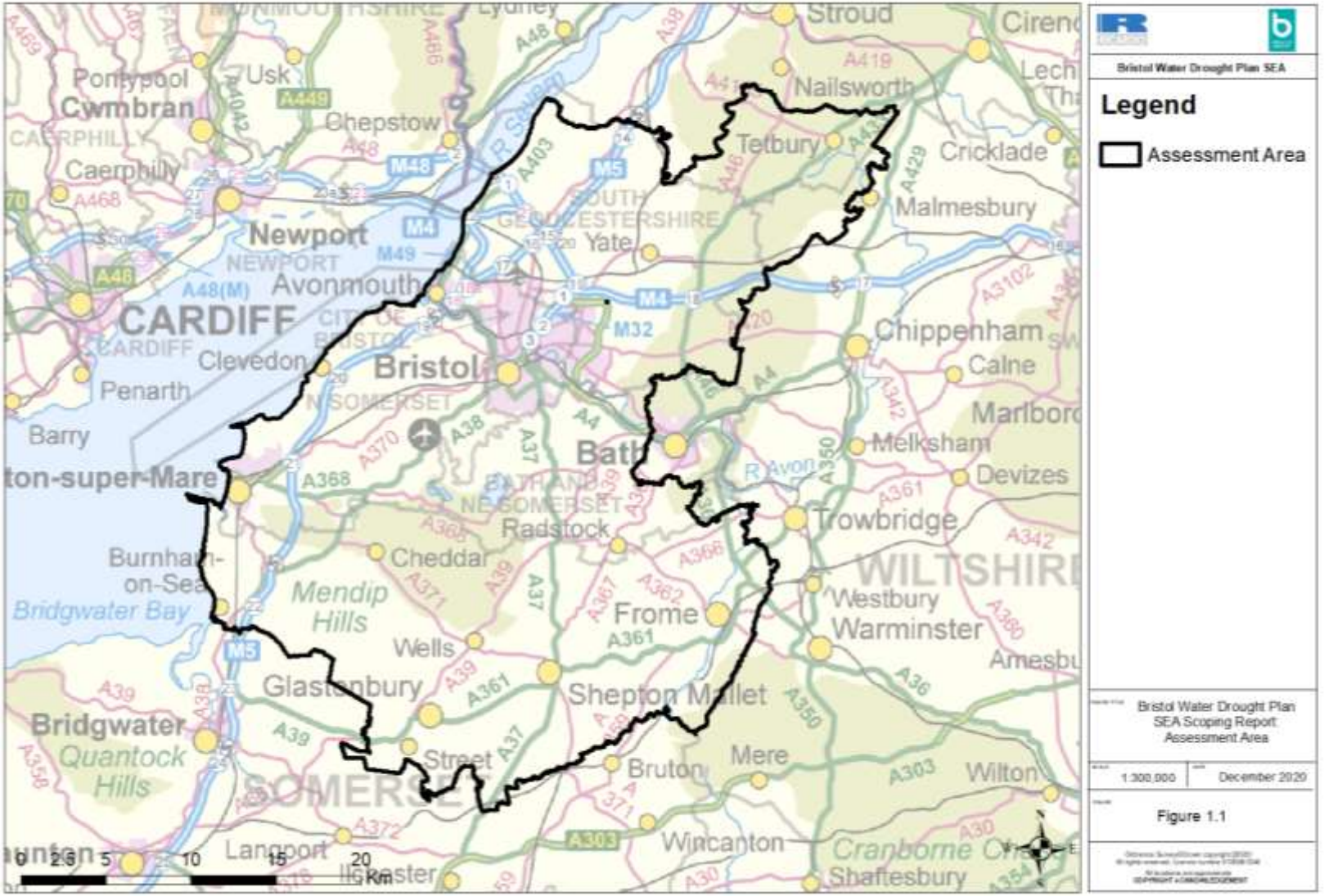
Bristol Water is a water only company (WoC) that provides water supplies to 1.19 million people plus business customers in an area of approximately 2,400 square kilometres centred on Bristol and the towns and villages within a 20-mile radius of the city. The water supply area stretches from Thornbury and Tetbury in the north, to Street and Glastonbury in the south, and from Weston-Super-Mare in the west to Frome in the east. Bristol Water relies on 68 water sources, including reservoirs, rivers, springs, wells and boreholes. Of the company's 14 raw water reservoirs, the largest is Chew Valley Reservoir, holding up to 20,460 million litres and providing around 40% of the water required to meet demand.

Water resources within the Bristol Water supply area alone are not sufficient to meet customer demand for water and therefore water supplies are also imported from neighbouring areas, including the River Severn. This water is sourced via the Gloucester & Sharpness Canal to supply the largest northern treatment works. This source accounts for approximately 46% of Bristol Water's reliable water resources. Bristol Water has an agreement with the Canal & River Trust (the owners of the abstraction licence) to receive water supplies from the Gloucester & Sharpness Canal, which is supplied by the River Severn and other local rivers, the Cam and the Frome. The volume of water available for abstraction from the River Severn is controlled by the Environment Agency according to the River Severn Regulation System operating rules. The Mendip Reservoirs and associated surface water abstractions account for approximately 42% of the available reliable water resource. The remaining 12% of reliable water resources for Bristol Water are derived from groundwater.

There is a significant degree of resilience and connectivity in both the raw water network and the treated water bulk transfer systems. This flexibility permits the sharing of resources and allows optimum use according to seasonable availability. As a result, the Bristol Water supply area is operated as a single water resource zone in which all sources are used conjunctively. Bristol Water's supply area is bounded by three other water companies (Thames Water, Wessex Water and Severn Trent Water). A number of water supply transfers are made between Bristol Water and these adjacent water companies.

The geographical area under consideration for the SEA of the Drought Plan is shown in **Figure 1.1**, this spatial scope is defined by the Bristol Water supply area.

Figure 1.1 Bristol Water SEA Assessment Area



1.2.3 Drought Plan overview and timetable

Under sections 39B and 39C of the Water Industry Act 1991 (as amended by the Water Act 2003 and the Flood and Water Management Act 2010), water companies are required to prepare and maintain statutory Drought Plans. The Drought Plan sets out the operational steps a water company will take before, during and after a drought to maintain essential water supplies to customers. A Drought Plan is defined by the Water Industry Act 1991 (as amended) as '*a plan for how the water undertaker will continue, during a period of drought, to discharge its duties to supply adequate quantities of wholesome water, with as little recourse as reasonably possible to drought orders*[1] *or drought permits*[2]'.

Bristol Water is required to submit its draft Drought Plan 2021 to the Secretary of State in early 2021. The draft plan will be issued for public consultation along with the SEA Environmental Report, a Habitats Regulations Assessment (HRA) report and a WFD compliance assessment summary. Following feedback from the public consultation process, a Statement of Response will be published by Bristol Water setting out its responses to consultation feedback and any changes it proposes to make to the draft Drought Plan. The Drought Plan (and associated SEA, HRA and WFD compliance assessment) will be updated as appropriate and submitted to the Secretary of State for approval to publish it as a final plan. The Final Drought Plan is expected to be published by 2022, subject to approval by the Secretary of State. The updated plan will guide Bristol Water's response to any drought events that may arise in the period between 2022 and 2027.

Only those drought management measures which are relevant to the period encompassed by the Drought Plan are considered within the SEA. In this regard, environmental effects of the potential drought plan measures are considered within the context of the company's existing abstraction licence conditions and operating arrangements. Additionally, only those relevant plans, projects and programmes that are likely to be effective in the period from 2022 to 2027 that may lead to cumulative effects with the Drought Plan will be considered in the SEA. The Drought Plan is closely linked and integrated with the separate statutory process of developing a long-term Water Resources Management Plan (last published by Bristol Water in 2019). Relevant linkages between the two plans will be explained in the draft Drought Plan and accompanying SEA Environmental Report.

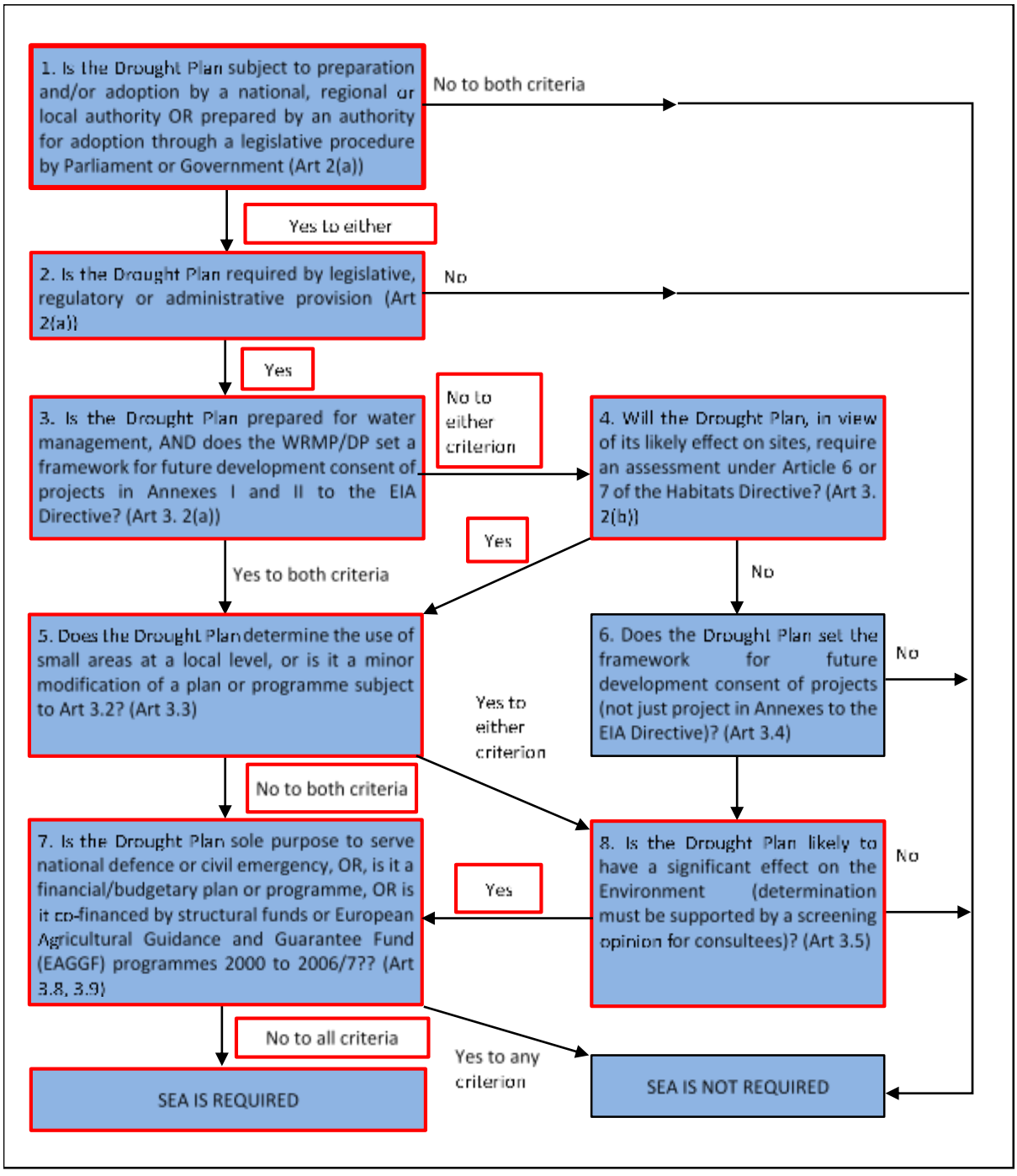
1.2.4 Requirement for SEA of Bristol Water's Drought Plan

Water Companies need to demonstrate that they have investigated whether SEA is required for their Drought Plans. As responsible authorities under the SEA Regulations, water companies must themselves determine if their Drought Plan falls within the scope of Directive 2001/42/EC (the SEA Directive).

The flow diagram in the Office of the Deputy Prime Minister (ODPM) SEA Practical Guide[3] has been applied to Bristol Water's Drought Plan and is presented in **Figure 1.3** with the boxes and arrows highlighted in red describing the provisions and route through the flow chart that is applicable to the Drought Plan, which demonstrate that the Drought Plan falls within the scope of the SEA Directive. Bristol Water has taken a precautionary approach in relation to the SEA screening of the Drought Plan by considering that there could be possible effects on Natura 2000 sites as a result of implementing some of the measures included in the plan. This will be confirmed by the parallel HRA screening process currently being undertaken.

[1] An authorisation granted by the Secretary of State under Section 73 of the Water Resources Act (199) when there are drought conditions, which impose restrictions upon the use of water, and/or allows for abstraction/impoundment outside the schedule of existing licences on a temporary basis. A drought order can be applied for by the EA for environmental reasons and by a Water Undertaker for Public Water Supply reasons. A drought order lasts for 6 months but can be extended for a total of one year.
[2] An authorisation granted by the EA under drought conditions which allows for abstraction/impoundment outside the schedule of existing licences on a temporary basis (generally for 6 months, but can be extended up to a total of one year) under Schedule 8 of the Water Resources Act (1991) (as amended).
[3] Office of the Deputy Prime Minister (2005) A Practical Guide to the Strategic Environmental Assessment Directive.

Figure 1.2 SEA Requirement of Bristol Water's Drought Plan



The route through the flow diagram has been highlighted in red on **Figure 1.3**, and is described below:

1. Is the Plan subject to preparation and/or adoption by a national, regional or local authority OR prepared by an authority for adoption through a legislative procedure by Parliament or Government?
    - **Yes, prepared by an authority for adoption through a legislative procedure by Parliament or Government.**
2. Is the Plan required by legislative, regulatory or administrative provisions?
    - **Yes, required by legislative provisions.**

3. Is the Plan prepared for agriculture, forestry, fisheries, energy, industry, transport, waste management, water management, telecommunications, tourism, town and country planning or land use, AND does it set a framework for future development consent of projects in Annexes I and II to the EIA Directive?

    - **Yes, the plan is prepared for water management. However, it does not set a framework for future development consent of projects in Annexes I and II of the EIA Directive.**

4. Will the Plan, in view of its likely effect on sites, require an assessment under Article 6 or 7 of the Habitats Directive[4]?

    - **HRA screening is being undertaken and Appropriate Assessment of at least one of the measures contained in the plan might be required (precautionary approach adopted to the screening).**

5. Does the Plan determine the use of small areas at local level, OR is it a minor modification of a plan or programme subject to Art. 3.2?

    - **No to all criteria.**

8. Is it likely to have a significant effect on the environment?

    - **Possibility that it may have significant effects (precautionary approach adopted).**

7. Is the PP's sole purpose to serve national defence or civil emergency, OR is it a financial or budget PP, OR is it co-financed by structural funds or EAGGF programmes?

    - **No to all criteria.**

RESULT: THE SCREENING INDICATES THAT SEA IS REQUIRED TO BE CARRIED OUT ON THE DROUGHT PLAN, ADOPTING A PRECAUTIONARY APPROACH

1.2.5 Bristol Water Drought Plan Measures

The 2018 Bristol Water Drought Plan identified drought management triggers ("Drought Management Zones") based on the combined storage in its major reservoirs (**see Figure 1.3**). These triggers act as decision-points for implementation of defined drought management measures as reservoir storage is depleted in a drought event.

There are two broad categories of drought management measures: demand management measures and supply augmentation measures. These are described in the tables below.

Demand management measures

Demand management measures are designed to reduce the demand for water in a drought and are not site-specific but often are implemented across the entire water supply area (see **Table 1.1**).

[4] Superseded by the Conservation of Habitats and Species Regulations (2010), Section 61 to 67.

Figure 1.3 Bristol Water: Drought Management Triggers

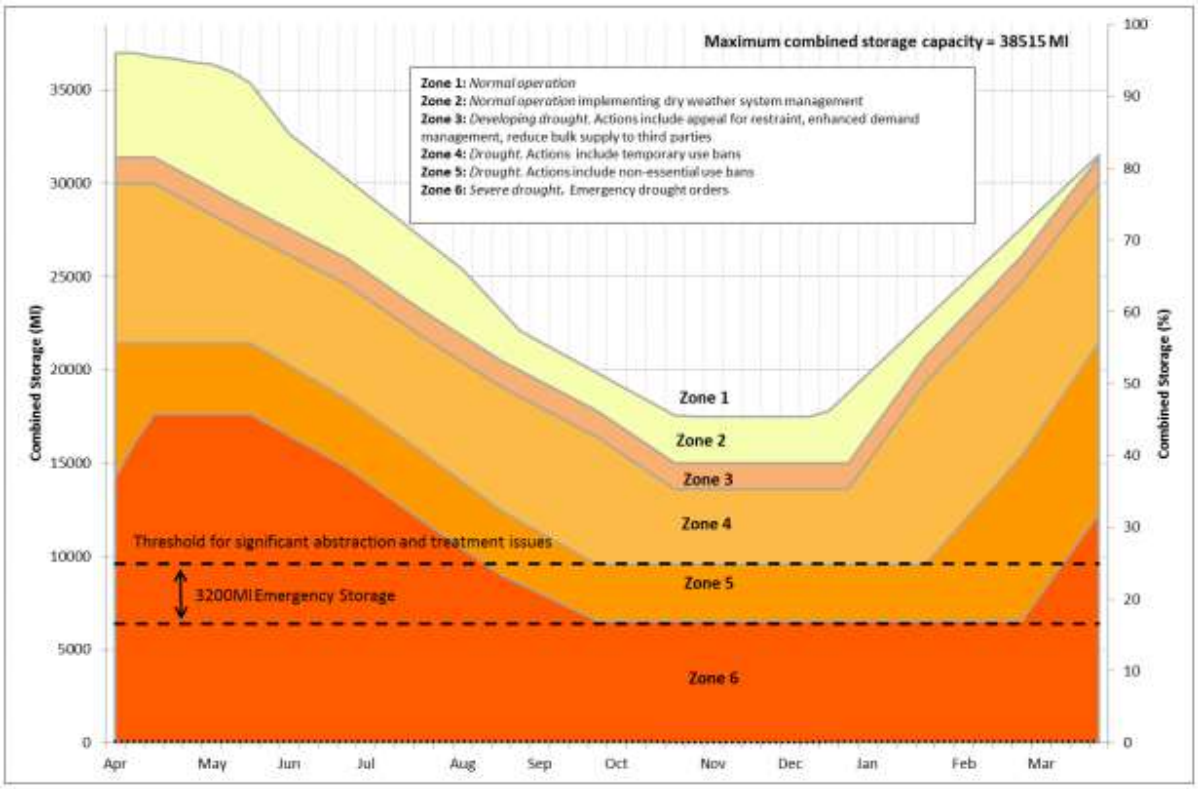


Table 1.1 Demand Management Measures

Demand Management Measure	Description
Appeals for restraint	This measure would help encourage customers to reduce their water usage via publicity campaigns and the media. The measure would be expected to reduce total household demand by around 1%.
Temporary Use Ban (TUB)	This measure to restrict certain non-essential water uses would be expected to reduce peak summer household demand by up to 9.5%. The restrictions in water use can include: • Cleaning a private leisure boat using a hosepipe • Cleaning a private motor vehicle using a hosepipe • Filling or maintaining an ornamental fountain • Cleaning walls, or windows, of domestic premises using a hosepipe • Cleaning paths or patios using a hosepipe • Cleaning other artificial outdoor surfaces using a hosepipe • Drawing water using a hosepipe, for domestic recreational use • Filling or maintaining a domestic swimming or paddling pool • Watering a garden using a hosepipe • Watering plants on domestic or non-commercial premises using a hosepipe • Filling or maintaining a domestic pond using a hosepipe

Demand Management Measure	Description
Non Essential Use Ban (NEUB)	This measure requires an application to the Secretary of State for a drought order to prohibit certain non-essential water uses. The measure would be expected to reduce non-household demand by up to 2% across the year. The restrictions in water use include: • Watering outdoor plants on commercial premises • Filling or maintaining a non-domestic swimming or paddling pool • Filling or maintaining a pond • Operating cisterns (in unoccupied premises) • Cleaning industrial plant (except where required for health and hygiene) • Suppressing dust (except where controlled by health and safety regulations) • Operating a mechanical vehicle-washer • Cleaning a window of a non-domestic building • Cleaning any vehicle, boat, aircraft or railway rolling stock • Cleaning non-domestic premises

Supply augmentation measures

Supply augmentation measures considered by Bristol Water include bringing disused, licensed water sources back into supply and applying for drought permits to temporarily vary the conditions of abstraction licences for specific water sources.

Honeyhurst and Wellhead (Rodney Stoke)

Bristol Water's Honeyhurst and Wellhead (Rodney Stoke), (referred to as Honeyhurst Well hereafter) is a licensed water source that has not been in operation for approximately 20 years. In the event of a drought, it would require recommissioning before it could be used to supply water. The measure is expected to provide an additional 2.4 Ml/d of water supplies.

Some construction activities are required in order to bring Honeyhurst Well into operation, including the replacement of the pumps at Honeyhurst Well and the construction of a new pipeline to link the source to a water treatment works.

Drought Permits

Drought permits are drought management measures available to water companies which, if granted by the Environment Agency, can temporarily allow more flexibility to manage water resources and the effects of drought on public water supply and the environment. Potential drought permits to be considered by Bristol Water in developing the Drought Plan are identified in **Table 1.2.**

Table 1.2 Drought Permit Options

Drought Permit	Description
Reduction in compensation flow release from Blagdon Reservoir	This permit would allow the compensation flow release from Blagdon Reservoir to be reduced from 8.64 Ml/d to 4.6Ml/d between 15th May and 30th November only. This will help to conserve water resources within Blagdon Reservoir.
Reduction in compensation flow release from Chew Valley Reservoir	This permit would allow the compensation flow release from Chew Valley Reservoir to be reduced from 14.32Ml/d to 7Ml/d between 1st May and 30th November, or from 6.82Ml/d to 3.4Ml/d (between 1st December to 30th April). This will help to conserve water resources within or refill Chew Valley Reservoir.
Reduction of prescribed flow at Cheddar Reservoir	This permit would allow a reduction to the prescribed flow into the Cheddar Yeo from 6.8Ml/d to 3.4Ml/d (between 1st December to 14th May) only. This will help to refill Cheddar Reservoir.

Bristol Water is currently undertaking adaptive management trials under the Water Industry National Environment Programme (WINEP) at Blagdon Reservoir and Chew Valley Reservoir. This involves changes to compensation flow releases from the reservoirs aimed at improving ecological quality in the downstream waterbodies (River Yeo and River Chew, respectively). The implications of this change will be considered in the development of the Draft Drought Plan and as part of the SEA.

In addition to the three drought permit options identified in **Table 1.2**, Bristol Water is considering three additional drought permit options for inclusion in the Drought Plan 2021:

- changes to the Minimum Residual Flow conditions set out in the Alderley abstraction licence
- changes to the Minimum Residual Flow conditions set out in the Chelvey abstraction licence
- extension to the licensed abstraction period for the River Axe source to support the refill of Cheddar reservoir.

Bristol Water is in dialogue with the Environment Agency regarding these additional options. They will be considered within the SEA (and accompanying HRA and WFD assessment processes), unless it becomes evident that their inclusion in the draft Drought Plan is infeasible or inappropriate.

1.3 Drought Permit Environmental Assessment Reports

Environmental Assessment Reports (EARs) have been prepared for the three drought permits identified in **Table 1.2** above. These are currently being updated to support Bristol Water's Drought Plan 2021.

Bristol Water aims to agree the findings of these EARs with the Environment Agency and Natural England in advance of a future drought so that they are readily available for refreshing based on the prevailing drought situation at that time. 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 as well as any 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). The EARs also include Environmental Monitoring Plan (EMP) recommendations for each drought permit. These EAR studies, undertaken outside of an actual drought event, are intended to be used as the basis for the EAR to be prepared in support of a specific drought permit application, should the need arise.

Information from the EARs will be used to inform the SEA (and the accompanying HRA and WFD compliance assessment).

1.4 Strategic Environmental Assessment

1.4.1 Overview of Strategic Environmental Assessment (SEA)

SEA became a statutory requirement following the adoption of Directive 2001/42/EC (the SEA Directive) on the assessment of effects of certain plans and programmes on the environment. The Directive was transposed into national legislation by the SEA Regulations.

The objectives of SEA are set out in Article 1 of the SEA Directive as follows:

> *'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 Directive (and associated national SEA Regulations which will remain in force from 1 January 2021 following the end of the UK-EU Brexit transition period) requires assessment of the likely significant effects on the environment of implementing plans or programmes, and any reasonable alternatives, taking into account the objectives and geographical scope of the plan or programme. It should be noted, however, that as stated in the ODPM SEA Guidelines[5]

> *"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, therefore, be used to support the consideration of alternative drought management measures and the timing and implementation of the selected management measures within the plan, although this needs to be set within the context of applying SEA to drought planning, as described in Section 1.4.2 below.

The range of issues to be included in an SEA is set out in the SEA Regulations, and includes biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage, and landscape. As such, the full range of environmental and social effects which are likely to arise from implementation of the Drought Plan will be considered.

As identified above, the UK Government has produced generic SEA best practice guidance - the "Practical Guide"[6] which sets out the stages of the SEA process[7]. This, together with guidance for undertaking SEA of drought plans, which has been produced on behalf of United Kingdom Water Industry Research (UKWIR)[8], has been used to inform the methodology for the SEA set out in this Scoping Report. The UKWIR guidance is currently (December 2020) in the final stages of being updated[9], and the final draft of the updated guidance has been used to support the development of this Scoping Report.

Preparation of this SEA Scoping Report also takes into consideration the Environment Agency's 2020 Drought Plan Guideline (DPG)[10] which includes guidance on the preparation of EARs, environmental monitoring and mitigation, as well as SEA, HRA and WFD compliance assessment of Drought Plans.

The SEA process is integrated into the consideration of drought measures to be included in the Drought Plan from the outset, with a range of alternative measures evaluated. The SEA considerations may

[5] Office of the Deputy Prime Minister (2005) A Practical Guide to the Strategic Environmental Assessment Directive.
[6] Office of the Deputy Prime Minister (2005) A Practical Guide to the Strategic Environmental Assessment Directive.
[7] Office of the Deputy Prime Minister (2005). A Practical Guide to the Strategic Environmental Assessment Directive.
[8] UKWIR (2012) Strategic Environmental Assessment and Habitats Regulation Assessment – Guidance for Water Resources Management Plans & Drought Plans (12/WR/02/A). Prepared by Cascade Consulting.
[9] UKWIR (2021) Environmental Assessment Guidance for Water Resources Management Plans and Drought Plans (in preparation: prepared by Ricardo Energy & Environment and awaiting final UKWIR approval for publication)
[10] Environment Agency (2020) Water Company Drought Plan Guideline, April 2020.

result in some measures being excluded from the plan, or measures may need to be modified (or mitigation measures developed) to reduce any adverse effects. Once the range of measures to be included in the Drought Plan has been determined, the SEA (and HRA and WFD assessments) will be used to help identify the priority order (phasing) of the measures in relation to the different drought plan triggers, such that those measures with the greatest beneficial effects and/or least adverse effects would be introduced at an earlier stage than measures that lead to more significant adverse effects. Any required mitigation measures identified through the SEA process will be incorporated in the Drought Plan. The interactions of the SEA, HRA and WFD assessments are described in further detail in the following sections.

1.4.2 Applying Strategic Environmental Assessment to Drought Planning

Drought Plans encompass a basket of measures that will only be implemented if and when required because of the unpredictable occurrence of a drought event, and thus the actual impact of implementation of the plan over its life (typically 5 years) is subject to very significant uncertainties. There may or may not be a drought during the period of the plan, and each drought is different in terms of severity, season, location, duration and influence of other abstractors within the catchment. Each combination of these factors may require a bespoke reaction in terms of measures.

It is therefore impossible to predict in advance which of the measures will be required, as this will depend on the specific drought event. Consequently, the SEA cannot provide a certain prediction of an overall environmental effect of adopting the plan, as its implementation will vary for each drought event. However, scenarios will be discussed in the Drought Plan to show which measures would be required under different drought events (e.g. different severity and duration), and the effects of these scenarios will be discussed in the SEA. The SEA will focus on the effects resulting from the implementation of drought management measures rather than the 'natural' impacts of drought (which provides the baseline environment conditions against which the effects will be assessed).

The SEA will include cumulative effect assessments of implementing multiple Drought Plan measures that may affect the same environmental and/or social receptors, as well as considering potential cumulative assessments with other programmes, plans and projects (e.g. other water company Drought Plans).

1.4.3 Stages of Strategic Environmental Assessment

SEA incorporates the following generic stages:

- Stage A: Setting the context, identifying objectives, problems and opportunities, and establishing the baseline (scoping) – this report
- Stage B: Developing and refining options and assessing effects (impact assessment)
- Stage C: Preparing the Environmental Report (recording results)
- Stage D: Consulting on the Draft Plan and the Environmental Report (seeking consensus)
- Stage E: Monitoring the significant effects of the plan or programme on the environment (verification).

Table 1.3 is an extract from the ODPM Practical Guide[11] that sets out the main stages of the SEA process and the purpose of each task within the process. This Scoping Report represents Stage A: Tasks A1 to A4 of the SEA process. Specific guidance on the application of the SEA process to Drought Plans is provided by UKWIR (2012)[12] and the final draft of the updated UKWIR guidance referenced above.

[11] Office of the Deputy Prime Minister (2005). A Practical Guide to the Strategic Environmental Assessment Directive.
[12] UKWIR (2012) Strategic Environmental Assessment and Habitats Regulation Assessment – Guidance for Water Resources Management Plans & Drought Plans (12/WR/02/A).

Table 1.3 SEA Stages and Tasks

Stages in the SEA Process	
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.
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 measures 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.

Stages in the SEA Process	
SEA Stages and Tasks	Purpose
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.

1.4.4 Habitats Regulations Assessment (HRA)

As a competent authority, Bristol Water must ensure that its Drought Plan meets the requirements of the Conservation of Habitats and Species Regulations 2017 (as amended), commonly referred to as the 'Habitats Regulations'. Under Regulations 63 and 102, any plan or project which is likely to have a significant effect on a European site (either alone or in combination with other plans or projects) and is not directly connected with, or necessary for, the management of the site, must be subject to a HRA to determine the implications for the site in view of its conservation objectives.

The HRA will be undertaken in accordance with the latest available guidance for England[13,14]. It will follow the staged approach, commencing with HRA Stage 1 screening of all the drought management measures contained within the Drought Plan. Where Likely Significant Effects (LSE) are identified at the screening stage (alone or in-combination), an Appropriate Assessment will be undertaken to determine whether the Drought Plan measure(s) would adversely affect the integrity of the European site(s), either alone or in combination with other plans and projects, taking into account available mitigation measures.

The findings from the HRA will inform the SEA, in particular the SEA topics of 'biodiversity, flora and fauna' and 'water'.

1.4.5 Water Framework Directive (WFD) Compliance Assessment

Water companies are required to demonstrate how their Drought Plans meet the requirements of the WFD Regulations[15], including the objectives set out in relevant River Basin Management Plans. This requirement will be met by carrying out an assessment of the supply augmentation measures included in the Drought Plan as set out earlier. A WFD compliance assessment of the Drought Plan will be undertaken taking account of the Environment Agency's 2020 Water Company Drought Plan Guideline (DPG): Environmental assessment for water company drought planning supplementary guidance (Supplementary Guidance).

The WFD compliance assessment will be undertaken in parallel with the SEA and HRA to ensure an integrated approach to environmental assessment and to inform the development of the Drought Plan, and therefore ensure its overall compliance with relevant environmental legislation

[13] Tyldesley, D. & Chapman, C. (2019) The Habitats Regulations Assessment Handbook. DTA Publications.
[14] UKWIR (2021) Environmental Assessment Guidance for Water Resources Management Plans and Drought Plans (in preparation: prepared by Ricardo Energy & Environment and awaiting final UKWIR approval for publication)
[15] Water Environment (Water Framework Directive) (England and Wales) Regulations 2017. SI 2017 No. 407

The findings from the WFD assessment will inform the SEA, in particular the SEA topics of 'water' and 'biodiversity, flora and fauna'.

1.5 Structure of the Scoping Report

This SEA Scoping Report presents the findings of SEA Tasks A1 to A4 set out in **Table 1.3** and provides the SEA statutory bodies and other interested stakeholders with an opportunity to express their opinions on the scope and level of the detail to be included in the SEA Environmental Report. The Scoping Report is structured as follows:

- **Section 1** (this section) - describes the requirement for, purpose and process of the SEA, and its context in relation to the draft Drought Plan.
- **Section 2** – Baseline and Context: identification of key messages and environmental protection objectives from other relevant plans and programmes and sets out key environmental issues Bristol Water intends to consider in the SEA, drawing on information on the current state of the environment within Bristol Water's water supply area.
- **Section 3** – Proposed SEA Objectives and Assessment Framework: develops the objectives to form the basis of the assessment, and introduces the assessment approach and framework to consider the environmental effects of the measures to be included in the draft Drought Plan.
- **Section 4** – Next Steps: sets out the next stages and tasks in undertaking the SEA, and presents a proposed structure for the Environmental Report.

1.6 Consultation

1.6.1 Consultation throughout the SEA process

The consultation bodies and other interested stakeholders will be invited to express their views on this Scoping Report and the scope of the SEA proposed in accordance with SEA Regulation 12(5).

The subsequent SEA Environmental Report will take into consideration the responses received to the SEA Scoping consultation. The Environmental Report will provide assessments of the likely significant effects of the various drought management measures and the overall Drought Plan, and this will be issued for public consultation alongside the consultation on the draft Drought Plan in March 2021.

Feedback from the consultation on the Environmental Report will be considered by Bristol Water and incorporated in a formal Statement of Response, setting out how the feedback may influence the finalisation of the Drought Plan. It is expected that the Final Drought Plan will be published in Autumn 2021.

The company will prepare an SEA Post-Adoption Statement once the Final Drought Plan has been approved by the Secretary of State. This Statement will set out how the SEA and any views expressed by the consultation bodies or the public have influenced the Final Drought Plan.

1.6.2 Consultation on the Scoping Report

The consultation period for this Scoping Report will run from 18 December 2020 to 25 January 2021. Comments should be sent to Liz Cornwell via email to water.resources@bristolwater.co.uk (this is preferable due to Coronavirus (COVID-19) restrictions and reduced activity at Bristol Water offices)

or in writing to the following address:

Liz Cornwell
Water Resources Manager
Bristol Water
PO Box 218
Bridgewater Road
Bristol
BS13 7AT

In particular, Bristol Water welcomes comments on the following questions:

Consultation Questions
Q1. Do you have any comments on the structure and purpose of the Scoping Report? If so, please provide details.
Q2. Do you agree with the SEA spatial area under consideration (see Figure 1.1)? If you disagree, please explain why and what changes you consider are required.
Q3. Taking account of the SEA Regulations and associated guidance, do the environmental objectives encompass all the necessary issues (see Section 3)? If not, please explain why and what changes you consider are required.
Q4. Taking account of the SEA Regulations and associated guidance, do you agree with the proposed assessment approach for options, programme appraisal and the Drought Plan as a whole (see Section 3)? If not, please explain why and what changes you consider are required.
Q5. Do you consider that the overall scope and approach proposed in this Scoping Report will enable Bristol Water to robustly consider environmental effects in developing its Drought Plan? If not, please explain why and what changes you consider are required.

2 Environmental Baseline and Context

2.1 Introduction

Annex 1 of the SEA Directive (Directive 2001/42/EC) requires the following specific 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…relationship with other 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 areas designated pursuant to Directives 79/409/EEC (the 'Birds Directive') and 92/43/EEC (the 'Habitats Directive')*
- *"the environmental protection objectives, established at international, (European) Community or Member State 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".*

In accordance with the Directive, a review of relevant plans and programmes is presented in Section 2.2 and **Appendix A**. The current environmental baseline conditions and their likely evolution during the life of the plan is presented in **Appendix B** and discussed in Sections 2.3 and **Error! Reference s ource not found.**.

An SEA was prepared for the Bristol Water Drought Plan 2018. Changes that have been made since then relate to the incorporation of new publications or information where it has become available to support the review of policies, plans and programmes and the environmental baseline.

2.2 Review of Policies, Plans and Programmes

2.2.1 Introduction

Identifying other relevant plans, programmes and environmental protection objectives is one of the first steps in undertaking SEA, forming part of Stage A. The review identifies how Bristol Water's Drought Plan might be influenced by other plans, programmes and other environmental protection objectives which Bristol Water should consider in developing its plan. This information helps to identify the objectives for the SEA process.

Relevant plans and programmes were identified from the wide range that has been produced at an international, national, regional and local level. Plans that have no likely interaction with the Drought Plan (i.e. where they are unlikely to influence the plan, or be influenced by it), were not included in the review.

2.2.2 Key Policy Messages

International, national, regional and local policies, plans, programmes and strategies reviewed are listed in **Table 2.1**, with the findings of the review provided in **Appendix A**. Alongside the current and future baseline information reviewed in **Appendix B**, the key messages have been used to develop proposed objectives for the SEA (Section 3).

Table 2.1 Key Policy Messages Derived from the Review of Plans, Policies and Programmes

SEA Topic	Key Messages	Plans, Policies and Programmes
Biodiversity, flora and fauna	Conservation and enhancement of the natural environment and of biodiversity, particularly internationally and nationally designated sites, whilst taking into account future climate change. Promote a catchment-wide approach to water management to ensure better protection of biodiversity. To achieve favourable condition for priority habitats and species, including UK NERC habitats and species. Avoidance of activities likely to cause irreversible damage to natural heritage. Support 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. Protection, conservation and enhancement of natural capital. Ecosystem services from natural capital contributes to the economy and therefore should be protected and, where possible, enhanced.	*International:* The Convention on Wetlands of International Importance (Ramsar Convention) (1971) The Bern Convention on the Conservation of European Wildlife and Natural Habitats (1979) The Bonn Convention on the Conservation of Migratory Species of Wild Animals (1983) European Commission, Habitats Directive (1992/43/EEC) United Nations (1992) Convention on Biological Diversity (CBD) European Commission, The Water Framework Directive (2000/60/EC) European Commission, Birds Directive (2009/147/EC) European Commission, The EU Biodiversity Strategy for 2030 *National:* Salmon and Freshwater Fisheries Act 1975 (as amended) Wildlife and Countryside Act 1981 (as amended) Environmental Protection Act 1990 (as amended) Water Resources Act 1991 (Amendment) (England and Wales) Regulations 2018 SI2018/574 Water Resources Act 1991 (as amended) Water Industry Act 1991 (as amended) Water Resources Act 1991 (Amendment) (England and Wales) Regulations 2009 SI3104 The Environment Act 1995 The Environment Act 1995 (Commencement no. 26) Order 2020 The Countryside and Rights of Way (CROW) Act 2000 The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 Natural Environment and Rural Communities Act 2006 Environment Agency (2008) Sea trout and salmon fisheries. Our strategy for 2002 – 2021 The Eels (England and Wales) Regulations 2009 (as amended) Defra (2010) Making Space for Nature: A Review of England's Wildlife Sites and Ecological Network Defra 2011 UK National Ecosystem Assessment and Defra, 2014, UK National Ecosystems Assessment Follow on, Synthesis of Key Findings

	To seek opportunities for biodiversity net gain from infrastructure development. Avoidance of activities likely to increase the spread of Invasive Non-Native Species (INNS).	Defra (2011) Water for Life - Water White Paper Defra (2011) The Natural Choice: Securing the value of nature. The Natural Environment White Paper Defra (2011) Biodiversity 2020: A Strategy for England's Wildlife and Ecosystem Services Defra (2015) The Great Britain Invasive Non-Native Species Strategy Conservation of Habitats and Species Regulations 2017 (as amended) HM Government (2018) A Green Future: Our 25 Year Plan to Improve the Environment Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 MHCLG (2019) National Planning Policy Framework Defra (2020) Enabling a Natural Capital Approach (ENCA) Environment Agency (undated) Hydroecology: Integration for modern regulation Environment Agency (undated) WFD River Basin Characterisation Project Technical Assessment Method - River abstraction and flow regulation *Regional/Local:* Natural England Site Improvement Plans (2014-15): South West (SIPs) Environment Agency and Defra, (2015) River Basin Management Plan Severn River Basin District Environment Agency and Defra, (2015) South West River Basin District River Basin Management Plan Environment Agency and Defra, (2015) River Basin Management Plan Thames River Basin District Environment Agency, Abstraction Licence Strategies (various dates for relevant catchments) Defra (2010) Eel Management Plans for the United Kingdom: Severn River Basin District Bristol Water (2019) Business Plan 2020-2025: Bristol Water For All Bristol Avon Catchment Partnership (2016) Catchment Plan
Population and human health	Water resources play an important role in supporting the health and recreational needs of local communities. Effective water resource management can create opportunities for regeneration, tourism and the wider economy.	*International:* United Nations Economic Commission for Europe (1998) Aarhus Convention - Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters

	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 secure, safe, reliable, dependable, sustainable and affordable supplies of water are provided for all communities.	European Commission, Drinking Water Directive (1998/83/EC) and subsequent amendments European Commission The Water Framework Directive (2000/60/EC) The Environmental Noise Directive (Directive 2002/49/EC) European Commission, Floods Directive (2007) European Commission, The 7th Environmental Action Programme (EAP) Environment Action Programme to 2020 'Living well, within the limits of our planet' (1386/2013/EU) European Commission Blueprint to Safeguard Europe's Water Resources *National:* Environmental Protection Act 1990 (as amended) The Countryside and Rights of Way (CRoW) Act, 2000 Defra (2005) Securing the Future; Delivering UK Sustainable Development Strategy The Natural Environment and Rural Communities (NERC) Act (2006) UK Government (2007) The Air Quality Strategy for England, Scotland and Wales Defra (2011) The Natural Choice: securing the value of nature. The Natural Environment White Paper Defra (2011) Drought Direction 2011 Defra (2011) Water For Life – Water White Paper HM Government (2014)The National Infrastructure Plan Defra (2016) Drought Plan (Direction) Defra, Environment Agency, Natural England, Forestry Commission England (2016) Creating a Great Place for Living HM Government (2016) National Infrastructure Delivery Plan 2016-2021 HM Government (2018) A Green Future: Our 25-year Plan for the Environment MHCLG (2019) National Planning Policy Framework Cabinet Office, Department for International Development, Foreign, Commonwealth and Development Office (2019) Implementing the Sustainable Development Goals *Regional/Local:* Bristol Development Framework: Core Strategy 2011 North Somerset Council Core Strategy, January 2017

		Bath and North East Somerset (2018) Local Plan 2016-2036 South Gloucestershire Local Plan Core Strategy 2006-2027 Bristol Health and Wellbeing Policy 2020-2025 Bristol Avon Catchment Partnership (2016) Catchment Plan
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. Contribute to a resource efficient, green and competitive low carbon economy. Maintain a reliable public water supply and ensure there is enough water for human uses, whilst seeking to maintain a healthy 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.	*International:* European Commission (1999) Landfill Waste Directive (99/31/EC) United Nations (2002) Commitments arising from the World Summit on Sustainable Development, Johannesburg *National:* Environmental Protection Act 1990 (as amended) The Water Act 2003 (as amended) Defra (2011) Government Review of Waste Policy in England 2011 Defra (2011) Future Water: the Government's water strategy for England Defra (2011), Water for Life, Water White Paper, November 2011 Natural Environment White Paper (2011) Department of Energy and Climate Change (2011) National Policy Statements for Energy Infrastructure HM Government (2011) The Natural Choice: Securing the Value of Nature MHCLG (2019) National Planning Policy Framework HM Treasury Infrastructure UK (2014) National Infrastructure Plan Defra (2019) The government's response to the Natural Capital Committee's sixth annual report HM Treasury Infrastructure UK (2020) National Infrastructure Strategy HM Government (2018) National Infrastructure Delivery Plan 2016-2021 Energy Challenge (2020)
Water	Promote sustainable water resource management, including a reduction in water consumption.	*International:* European Commission Urban Waste Water Treatment Directive (91/271/EEC) European Commission Nitrates Directive (91/676/EEC) European Commission Drinking Water Directive (1998/83/EC) (amended 2015)

	Maintain and improve water quality (surface waters, groundwater and coastal waters). Expand the scope of water quality protection measures to all waters, surface waters and groundwater. Improve the quality of the water environment and the ecology 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. Prevent deterioration of WFD waterbody status. Balance the abstraction of water for supply with the other functions and services the water environment performs or provides. Steer new development to areas with the lowest probability of flooding and manage any residual flood risk, taking account of the impacts of climate change. Promote measures to enable and sustain long term improvement in water efficiency. Ensure a sustainable balance between the supply and demand for water. Encourage more efficient use of water and promote awareness of water sustainability.	European Commission The Water Framework Directive (2000/60/EC) Directive 2006/118EC of the European Parliament and of the council of 12 December 2006 on the protection of groundwater against pollution and deterioration European Commission Floods Directive (2007/60/EC) *National:* Water Resources Act 1991 (Amendment) (England and Wales) Regulations 2009 SI3104 Water Resources Act 1991 (as amended) The Water Act 2003 (as amended) The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 Defra (2005) Making Space for Water Environment Agency (2010) Water Resources Action Plan for England and Wales Environment Agency (2009) Water Resources Strategy for England and Wales Flood and Water Management Act (2010) Environment Agency (2010) Water Resources Action Plan for England and Wales Water Industry Act 1991 (as amended by the commencement of Section 38 of the Flood and Water Management Act 2010) Defra (2011) Water for Life - Water White Paper Defra (2011) Drought Direction 2011 Environment Agency (2011) National Flood and Coastal Risk Management Strategy for England Defra (2012) The UK Climate Change Risk Assessment 2012 Evidence Report Defra (2012) National Policy Statement for Waste Water Environment Agency (2013) Managing Water Abstraction Environment Agency (2013) Climate change approaches in water resources planning – overview of new methods Defra and Welsh Government (2014) River Basin Planning Guidance Defra and Environment Agency (2015) How to Write and Publish a Drought Plan Environment Agency (2015) Drought Response: our framework for England Defra (2016) Drought Direction 2016 Environment Agency (2020) Drought plan guidance

		Defra (2016) Guiding Principles for Water Resources Planning for Water Companies Operating Wholly or Mainly in England. Environment Agency (2017) Drought Response: Our Framework for England MHCLG (2019) The National Planning Policy Framework The State of the Environment: Water Resources 2018 UKTAG on the WFD Guidance Documents (various dates) Environment Agency (2020) Meeting our future water needs: a national framework for water resources *Regional/Local:* Environment Agency (2009 and 2012) Catchment Flood Management Plans; Bristol Avon, Severn Tidal Tributaries, North and Mid Somerset, Bristol Avon Catchment Partnership (2016) Catchment Plan Bristol Avon Catchment Plan Progress Report (2015-2018) Wessex Water (2018) Drought Plan Thames Water (2017) Drought Plan Severn Trent Water (2019) Drought Plan Environment Agency (2015) Drought response: our framework for England Environment Agency Abstraction Licensing Strategies (various dates for different catchments) Bristol Water (2019) Final Water Resources Management Plan 2019 Water Resource Management Plans (2019) for Thames Water, Severn Trent Water and Wessex Water. Environment Agency and Defra, (2015) South West River Basin District River Basin Management Plan Environment Agency and Defra, (2015) River Basin Management Plan Severn River Basin District Environment Agency and Defra, (2015) River Basin Management Plan Thames River Basin District Environment Agency (2016) South West River Basin District, Flood risk management plan 2015-2021
Soil, geology and land use	Maintain the quality and diversity of geology (including geological SSSIs) and soils, including geomorphology and geomorphological processes. These can be lost or damaged by insensitive development.	*International:* European Commission (1999) Landfill of Waste Directive (99/31/EC) Council of Europe (2003) European Soils Charter European Commission (2006) Thematic Strategy for Soil Protection

	Ensure that soils will be protected and managed to optimise the varied functions they perform for society (e.g. supporting agriculture and forestry, protecting cultural heritage, supporting biodiversity, as a platform for construction), in keeping with sustainable development principles. Promote catchment-wide approach to land management by relevant stakeholders, 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. 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.	*National:* Wildlife and Countryside Act 1981 (as amended). The Countryside and Rights of Way (CROW) Act (2000) Defra (2004) The First Soil Action Plan for England Defra (2004) Rural Strategy 2004 Defra (2006) Sustainable Farming and Food Strategy: Forward Look Environment Agency (2007) Soil: A Precious Resource: Strategy for Protecting, Managing and Restoring Soil Defra (2009) Safeguarding our Soils – A Strategy for England Natural England (2011) UK Geodiversity Action Plan MHCLG (2019) National Planning Policy Framework *Regional/local:* National Character Area (NCA) profiles Environment Agency and Defra, (2015) River Basin Management Plan South West River Basin District Environment Agency and Defra, (2015) River Basin Management Plan Severn River Basin District
Air and climate	Reduce greenhouse gas emissions. Targets include bringing the UK's greenhouse gas emissions to net zero by 2050 and make the city of Bristol Carbon neutral by 2030. Reduce the effects of air pollution on ecosystems. Improve overall air quality.	*International:* European Commission (2005) Thematic Strategy on Air Pollution 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) The Paris Agreement (2016), Cancun Agreement (2011) and Kyoto Agreement (1997) *National:* The Climate Change Act 2008 DECC (2007) Energy White Paper: Meeting the Energy Challenge

	Minimise energy consumption, support the use of sustainable/renewable energy and improve resilience to climate change. Sustain compliance with and contribute towards EU limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and the cumulative impacts on air quality from individual sites in local areas. Build in adaption to climate change to future planning and consider the level of urgency of associated risks of climate change impacts accordingly. Need for adaptive measures to respond to likely climate change impacts on water supply and demand.	Defra (2007) The Air Quality Strategy for England, Scotland and Wales Defra (2007) Conserving Biodiversity in a Changing Climate: Guidance on Building Capacity to Adapt Defra (2008), England Biodiversity Strategy – climate change adaptation principles The Climate Change Act 2008 English Heritage (2008) Climate Change and the Historic Environment Department of Energy and Climate Change (2011) Planning our electric future: a White Paper for secure, affordable and low carbon electricity DECC (2007) Energy White Paper: Meeting the Energy Challenge DECC (2011) National Policy Statements for Energy Infrastructure DECC (2011) Planning Our Electric Future; A White Paper for Secure, Affordable and Low Carbon Electricity Defra (2012) The UK Climate Change Risk Assessment 2012 Evidence Report The Energy Act 2013 Defra (2013) The National Adaptation Programme: Making the country resilient to a changing climate. HM Government (2016) National Infrastructure Delivery Plan 2016-2021 HM Government (2018) A Green Future: Our 25 Year Plan to Improve the Environment UKCP (2018): UK Climate Projections 2018 Natural England National Character Area (NCA) Profiles *Regional/Local:* Bristol City Council (2019) Air Quality Annual Status Report Bristol City Council Mayor's Climate Emergency Action Plan (2019) South Gloucestershire Air Quality Annual Status Report (2019) South Gloucestershire Council: Local Greenhouse Gas Report (2019/2020) North Somerset Air Quality Status Report 2018 North Somerset Climate Emergency Strategy 2019
Archaeology and cultural heritage	Built development in the vicinity of historic buildings and Scheduled Monuments could have implications for the setting and/or built fabric. Ensure active management of the Region's environmental and cultural assets.	*International:* The World Heritage Convention (UNESCO) 1972 – A Global Instrument for the Protection of Cultural and Natural Heritage. The Convention for the Protection of the Architectural Heritage of Europe (Granada Convention 1985) The European Convention on the Protection of Archaeological Heritage (Valletta Convention 1992)

	Ensure effects resulting from changes to water level (surface or sub-surface) on all historical and cultural assets are avoided. Consider effects on important wetland areas with potential for paleo-environmental deposits. Promote the conservation and enhancement of the historic environment, including the promotion of heritage and landscape as central to the culture of the region and conserve and enhance distinctive characteristics of landscape and settlements. 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 this and future generations.	European Commission (2007), Floods Directive (2007/60/EC) *National:* Planning (Listed Buildings and Conservation Areas) Act 1990 Defra (2004) The First Soil Action Plan for England Department for Culture, Media and Sport (2001) The Historic Environment – A Force for the Future (2001) English Heritage (2008), Climate Change and the Historic Environment Defra (2011) The Natural Choice: Securing the Value of Nature, The Natural Environment White Paper Defra (2011) UK National Ecosystem Assessment Historic England (2013) Strategic Environmental Assessment, Sustainability Appraisal and the Historic Environment Historic England (2015) The Setting of Heritage Assets, Historic Environment Good Practice Advice in Planning Historic England (2016) Climate Change and the Historic Environment Historic England (2020) Heritage at Risk HM Government (2018) A Green Future: Our 25 Year Plan to Improve the Environment MHCLG (2019) National Planning Policy Framework *Local* Bristol City Council: Our Inherited City: Heritage Statement Guidance: 2020 Individual Conservation Area Appraisals South Gloucestershire Local Plan: Policies, Sites and Policies Plan Adopted November 2017
Landscape and visual amenity	Protection and enhancement of landscape (including designated landscapes, landscape character, distinctiveness and the countryside). Abstraction and low river flows could negatively affect landscape and visual amenity.	*International:* Council of Europe (2000) European Landscape Convention (Florence Convention) Council of Europe (2006) European Landscape Convention *National:* Wildlife and Countryside Act 1981 (as amended) The Countryside and Rights of Way (CRoW) Act (2000)

	Enhance the value of the countryside by protecting the natural environment for this and future generations. 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. 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. Improve access to valued areas of landscape character in sustainable ways to enhance its enjoyment and value by visitors and stakeholders.	Defra (2010) Making Space for Nature: A Review of England's Wildlife Sites and Ecological Network Defra (2011) The Natural Choice: Securing the value of nature. The Natural Environment White Paper Historic England (2015) Historic Environment Good Practice Advice in Planning Note 3 HM Government (2018) A Green Future: Our 25 Year Plan to Improve the Environment MHCLG (2019) National Planning Policy Framework *Regional/Local:* Cotswolds AONB Management Plan 2018-2023 Mendip Hills AONB Management Plan 2019-2024 Natural England National Character Area (NCA) Profiles

2.3 Environmental Baseline Review

2.3.1 Introduction

An essential part of the SEA process is to identify the current environmental baseline conditions and their likely evolution during the life of the plan (in this case, a maximum of 5 years). It is only with knowledge of existing conditions that the impacts of the Drought Plan can be identified, mitigated and subsequently monitored. The SEA will consider the effect of alternative drought plan measures against the baseline environmental and social conditions that would exist in drought conditions when the measures would be implemented.

The SEA Directive (Directive 2001/42/EC) requires that the evolution of baseline conditions across the area affected by the plan (that would take place with or without implementation of the plan) is identified. This is useful when determining impact significance, particularly with regards to baseline conditions that may already be improving or worsening and the rate of such change.

The full baseline assessment and the likely future trends for the environmental issues being considered (where information is available) is presented in **Appendix B**. This has drawn on data for the South West of England, and specifically those areas that lie within the Bristol Water supply area. Baseline data given below have been drawn from a variety of sources, including a number of the plans, policies and programmes reviewed as part of the SEA process given in Section 2.2. The key issues arising from the review of baseline conditions are summarised below.

2.3.2 Limitations of the data and assumptions made

Information used in the baseline relates to the South West of England. As such, this baseline information may not identify the more localised issues that may be against the general trends of the regions. For example, this may include pockets of deprivation in relatively affluent areas or any localised differences in environmental quality.

Data have generally been sourced from national or regional bodies, where information is collected for regions of the UK. Whilst this allows for a more effective comparison between regional and national averages, reliance on these data sets has in some cases meant that information is a number of years old.

2.3.3 Key Issues

Biodiversity, Fauna and Flora Key Issues

The key sustainability issues arising from the baseline assessment for biodiversity, fauna and flora are

- The need to protect or enhance the region's biodiversity, particularly within designated sites, protected species and habitats of principal importance.
- The need to avoid activities likely to cause irreversible damage to natural heritage.
- The need to take opportunities to improve connectivity between fragmented habitats to create functioning habitat corridors.
- The need to control the spread of Invasive Non-Native Species (INNS)
- The need to recognise the importance of allowing wildlife to adapt to climate change.
- 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 the ecosystem services.
- The need to deliver an increase in the Bristol Water biodiversity index.

Population and Human Health Key Issues

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

- The need to ensure water supplies remain affordable especially for deprived or vulnerable communities, reflecting the importance of water for health and wellbeing.
- The need to ensure continued improvements in levels of health across the region, particularly in urban areas and deprived areas.
- The need to ensure public awareness of drought conditions and importance of maintaining resilient, reliable public water supplies without the need for emergency drought measures.
- The need to ensure water quantity and quality is maintained for a range of uses including tourism, recreation, navigation and other uses such as agriculture.
- The need to ensure a balance between different aspects of the built and natural environment that will help to provide opportunities for local residents and tourists for access to green infrastructure and the natural and historic environment, as well as protecting and enhancing recreational resources.
- The need to accommodate an increasing population and local housing growth through provision of essential services including water supply.
- 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 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.
- The need to continue to encourage more efficient water use by consumers.

Water Key Issues

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

- The need to further improve the quality of the region's river, estuarine and coastal waters taking into account WFD objectives and designated sites objectives (i.e. assessment against Common Standards Monitoring Guidance, where relevant).
- The need to maintain the quantity and quality of groundwater resources taking into account WFD objectives.
- The need to improve the resilience, flexibility and sustainability of water resources in the region, particularly in light of potential climate change impacts on surface waters and groundwaters.
- The need to ensure sustainable abstraction to protect the water environment and meet society's needs for a resilient water supply.
- The need to ensure that people understand the value of water.

Soil, Geology and Land Use 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).

Air and Climate Key Issues

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

- The need to reduce air pollutant and greenhouse emissions and limit air emissions to comply with air quality standards.
- The need to reduce greenhouse gas emissions (industrial processes and transport).
- The need to adapt to the impacts of climate change, for example through sustainable water resource management, water use efficiencies, specific aspects of natural ecosystems (e.g. connectivity) as well as accommodating potential opportunities afforded by climate change.

Archaeology and Cultural Heritage Key Issues

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

- The need to conserve or enhance sites of archaeological importance and cultural heritage interest, and their setting, particularly those which are sensitive to the water environment.
- The need to protect water-dependent heritage sites during drought conditions.

Landscape and Visual Amenity 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 Areas of Outstanding Natural Beauty (AONBs) and other areas of natural beauty.
- The need to protect and improve the character of landscapes and townscapes.

Inter-relationships

There are inter-relationships between the SEA topics and all objectives assessed during the SEA process. These include impacts of changes to water flows and quality on biodiversity, the economy, recreation, tourism, navigation, cultural heritage and landscape. Inter-relationships that result in changes to individual effects are considered by evaluation of synergistic effects throughout the assessment.

The key sustainability issue arising is:

- The need to consider the inter-relationships between topics.

3 Draft SEA Objectives and Proposed Framework

3.1 Draft SEA Objectives

This section outlines the assessments that will be carried out as part of the SEA to identify the environmental and social effects of the potential measures to be considered for the Bristol Water Drought Plan.

The environmental and social assessment of the alternative Drought Plan measures will be 'objectives-led'. Establishing assessment objectives is a recognised way of considering the environmental effects of a plan and comparing the effects of alternatives. SEA objectives are often derived from environmental and social objectives established in law, policy or other plans and programmes, or from a review of baseline information and environmental problems (based on the SEA topics in Section 2.3.3).

An assessment framework of objectives has been developed based on:

- The key policy messages and environmental and social protection objectives identified in the review of policies, and other plans and programmes (see Section 2.2). It is important that the assessment takes these objectives into account as this will help to highlight any area where the Drought Plan will help or hinder the achievement of the objectives of other plans (e.g. at local, national and international level – see review of Plans, Policies and Programmes in Section 2.2).
- The current state of the environment in the assessment area and the key environmental issues identified (see Section 2.3 and **Appendix B**).

Draft SEA objectives are set out in **Table 3.1** alongside the key messages identified from the review of policies, plans and programmes and the key issues from the review of baseline information. The following sections describe how Bristol Water will use these SEA objectives in the assessment of the environmental and social effects of the potential Drought Plan measures. By assessing each measure against the objectives, it is more apparent where measures might have an adverse or beneficial effect, and where measures could be developed to reduce potential impacts or enhance beneficial effects.

At least one objective has been included under the SEA Biodiversity, Flora and Fauna topic and the Water topic to enable integration of the findings of any HRA and WFD assessments into the SEA, respectively.

As well as the overall SEA objectives, a number of key questions have been developed for each SEA topic. These key questions will prompt the assessment and ensure it considers all the relevant aspects. The assessment of each drought measure will require the following information:

- Details of each potential measure;
- Likelihood and predicted frequency of deployment of the measure;
- Construction (where applicable) and operational/implementation details;
- Benefits to the water supply-demand position in a drought (taking uncertainty into account); and
- Key elements of the baseline environment, such as location of designated sites, priority habitats and species, landscape areas or heritage assets, etc.

Table 3.1 SEA Objectives and Assessment Approach

SEA topic	Policies, plans and programmes - key messages	Baseline - key issues	SEA objective	Key questions
Biodiversity, fauna and flora	Conservation and enhancement of the natural environment and of biodiversity, particularly internationally and nationally designated sites and priority habitats and species, whilst taking into account future climate change. Promote a catchment-wide approach to water use to ensure better protection of biodiversity. To achieve favourable condition for priority habitats and species, including UK NERC habitats and species. Avoidance of activities likely to cause irreversible damage to natural heritage. Support 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. Protection, conservation and enhancement of natural capital. Ecosystem services from natural capital contributes to the economy and therefore should	The need to protect or enhance the region's biodiversity, particularly within designated sites, protected species and habitats of principal importance. The need to avoid activities likely to cause irreversible damage to natural heritage. The need to take opportunities to improve connectivity between fragmented habitats to create functioning habitat corridors. The need to control the spread of Invasive Non-Native Species (INNS). The need to recognise the importance of allowing wildlife to adapt to climate change. 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 the ecosystem services.	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species and to enhance natural capital.	• Will it contribute to favourable condition or favourable conservation status of the most important sites for nature conservation (SAC, SPA, Ramsar, SSSI)? • Will it have Likely Significant Effects on Natura 2000 sites (with reference to HRA undertaken in parallel)? Or will it cause significant harm to a SSSI or priority habitat? • Will it protect and enhance aquatic, transitional and terrestrial priority species and habitats? • Will it ensure maintenance or support provision of fish passage with respect to migratory fish functioning habitat connectivity? • Will it contribute to the sustainable management of natural habitats and ecosystems, i.e. within their limits and capacities? • Will it promote wildlife's ability to adapt to climate change? • Will it affect WFD compliance e.g. good ecological potential/status? • Will it contribute to improvements to Bristol Water's Biodiversity Index?

SEA topic	Policies, plans and programmes - key messages	Baseline - key issues	SEA objective	Key questions
	be protected and, where possible, enhanced. To seek opportunities for biodiversity net gain from infrastructure development. Avoidance of activities likely to cause the spread of Invasive Non-Native Species (INNS)	The need to deliver an increase in the Bristol Water biodiversity index.		• Will it protect or enhance natural capital and ecosystem services?
			1.2 To avoid introducing or spreading INNS.	• Will it limit, reduce or increase the risk of spread of Non-Native Species (INNS)?
Population and human health	Water resources play an important role in supporting the health and recreational needs of local communities and businesses. 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	The need to ensure water supplies remain affordable especially for deprived or vulnerable communities, reflecting the importance of water for health and wellbeing. The need to ensure continued improvements in levels of health across the region, particularly in urban areas and deprived areas.	2.1 To protect and enhance health and well-being (including raising awareness of the importance and value of the water environment for health and well-being).	Will it help to ensure provision of access to a secure resilient and affordable 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 assist in ensuring provision of essential services to support health and well-being?

SEA topic	Policies, plans and programmes - key messages	Baseline - key issues	SEA objective	Key questions
	To ensure all communities have a clean, safe and attractive environment in which people can take pride. To ensure secure, safe, reliable, dependable, sustainable and affordable supplies of water are provided for all communities. Access to high quality open spaces and opportunities for sport and recreation can make an important contribution to the health and well-being of communities.	The need to ensure public awareness of drought conditions and importance of maintaining resilient, reliable public water supplies without the need for emergency drought measures. The need to ensure water quantity and quality is maintained for a range of uses including tourism, recreation, navigation and other use such as agriculture. The need to ensure a balance between different aspects of the built and natural environment that will help to provide opportunities for local residents and tourists, including opportunities for access to, protecting and enhancing recreation resources, green infrastructure and the natural and historic environment. The need to accommodate an increasing population. Sites of nature conservation importance, heritage assets, water resources, important	2.2 To protect and enhance the water environment for other users including recreation, tourism and navigation, as well as terrestrial recreational resources (including National Trails and Public Rights of Way).	Will it protect or enhance opportunities for recreation and tourist activities such as public rights of way, including navigation? Will it help to promote healthy communities and protect from risks to health and wellbeing (for example through nuisance or resulting from traffic or transport changes, disruption to safe and reliable water /sewerage services)? Does it protect and enhance the green infrastructure network?
			2.3 To promote a sustainable economy with good access to essential services, including a resilient, high quality and affordable supply of water.	Will it assist in ensuring provision of essential services to good access to essential services?

SEA topic	Policies, plans and programmes - key messages	Baseline - key issues	SEA objective	Key questions
		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	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. Contribute to a resource efficient, green and competitive low carbon economy. Maintain a reliable public water supply and ensure there is enough water for human uses, whilst seeking to maintain a healthy water environment. Accelerating the transition to sustainable forms for 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. The need to encourage efficient water 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.	Will it help to minimise the demand for resources? Will it minimise the use of energy and promote energy efficiency? Will it make use of existing infrastructure? Will it help to encourage sustainable design or use of sustainable materials (e.g. supplied from local resources)? Will it reduce the amount of waste generated and increase the proportion sent to reuse or recycling?
			3.2 To promote and secure the efficient and sustainable use of water to ensure resilient water supplies for people and businesses.	Will it enable efficient water use and ensure maintenance of water supplies? Will it help to minimise the demand for water?

SEA topic	Policies, plans and programmes - key messages	Baseline - key issues	SEA objective	Key questions
Water	Promote sustainable water resource management, including a reduction in water consumption. Maintain and improve water quality (surface waters, groundwater and bathing water). Expand the scope of water quality protection measures to all waters, surface waters and groundwater. Improve the quality of the water environment and the ecology 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. Prevent deterioration of waterbody status. Balance the abstraction of water for supply with the other functions and services the water environment performs or provides. Steer new development to areas with the lowest probability of flooding and manage any residual flood risk, taking account of the impacts of climate change. Promote measures to enable and sustain long term improvement in water efficiency.	The need to further improve the quality of the regions river, estuarine and coastal waters taking into account WFD objectives. The need to maintain the quantity and quality of groundwater resources taking into account WFD objectives. The need to improve the resilience, flexibility and sustainability of water resources in the region, particularly in light of potential climate change impacts on surface waters and groundwaters. The need to ensure sustainable abstraction to protect the water environment and meet society's needs for a resilient water supply. The need to ensure that people understand the value of water.	4.1 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats.	Will it lead to a change in river flows, wetted width or river level? Will it alter the flow regime or residence time of surface waters? Will it lead to changes in groundwater levels and recharge? Will it contribute towards improving the awareness of water sustainability and its true value? Will it promote measures to enable improvements in water efficiency and assist in reducing water abstraction? Will it lead to a temporary or permanent deterioration to WFD water body status?
			4.2 To protect and enhance surface and groundwater quality and protect and enhance estuarine waterbodies.	Will it present a risk to water quality of groundwater, surface water or estuarine waters? Will it affect WFD compliance (supporting elements to Good Ecological Potential/Status including hydromorphology) Will it prevent water pollution? Will it affect WFD protected areas?
			4.3 To ensure appropriate and sustainable management of abstractions to maintain water supplies whilst protecting ecosystem functions and services that rely on water resources	Will it achieve an appropriate balance of supply with other functions and services (including agriculture and navigation)? Will it ensure sustainable abstractions, taking account of water resources availability status?

SEA topic	Policies, plans and programmes - key messages	Baseline - key issues	SEA objective	Key questions
	Encourage more efficient use of water and promote awareness of water sustainability.			
Soil, geology and land use	Maintain the quality and diversity of geology (including geological SSSIs) and soils, including geomorphology and geomorphological processes. These can be lost or damaged by insensitive development. Ensure that soils will be protected and managed to optimise the varied functions they 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 management by relevant stakeholders, 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. 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 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).	5.1 To protect and enhance geology, geomorphology and the quality and quantity of soils.	Will it avoid damage to and protect geologically important sites (e.g. geological SSSIs)? Will it protect and enhance geomorphology and geomorphological processes? Will it protect and enhance the quality of soils? Will it ensure efficient use of land (e.g. make use of previously developed land)? Will it contribute towards a catchment-wide approach to land management?

SEA topic	Policies, plans and programmes - key messages	Baseline - key issues	SEA objective	Key questions
Air and Climate	Reduce greenhouse gas emissions. Targets include bringing the UK's greenhouse gas emissions to net zero by 2050 and make the city of Bristol carbon neutral by 2030. Reduce the effects of air pollution on ecosystems. Improve overall air quality. Minimise energy consumption, support the use of sustainable/renewable energy and improve resilience to climate change. Sustain compliance with and contribute towards EU limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and the cumulative impacts on air quality from individual sites in local areas. Build in adaption to climate change to future planning and consider the level of urgency of associated risks of climate change impacts accordingly. Need for adaptive measures to respond to likely climate change impacts on water supply and demand.	The need to reduce air pollutant and greenhouse emissions and limit air emissions to comply with air quality standards. The need to reduce greenhouse gas emissions (industrial processes and transport). The need to adapt to the impacts of climate change for example through, sustainable water resource management, water use efficiencies, specific aspects of natural ecosystems (e.g. connectivity) as well as accommodating potential opportunities afforded by climate change.	6.1 To reduce air pollutant emissions.	Will it reduce or minimise air pollutant emissions? Will it increase emissions to air in an areas sensitive to emissions (e.g. in proximity to an AQMA or to sensitive habitat or more deprived area)?
			6.2 To reduce greenhouse gas emissions.	Will it reduce or minimise greenhouse gas emissions? Will it result in an increase in greenhouse gas emissions over and above that that would be produced to supply an equivalent quantity of water in non-drought conditions?
			6.3 To adapt and improve resilience to the threats of climate change.	Will it reduce vulnerability or increase resilience to risks associated with climate change effects (e.g. drought)? Will it create opportunities to benefit from potential effects of climate change? Will it improve resilience/adaptability to likely effects of climate change, e.g. by increasing water storage capacity, or transferring water from areas with surplus? Will it make use of renewable energy?

SEA topic	Policies, plans and programmes - key messages	Baseline - key issues	SEA objective	Key questions
Archaeology and cultural heritage	Built development in the vicinity of historic buildings and Scheduled Monuments could have implications for the setting and/or built fabric. Ensure active management of the Region's environmental and cultural assets. Ensure effects resulting from changes to water level (surface or sub-surface) on all historical and cultural assets are avoided. Consider effects on important wetland areas with potential for paleo-environmental deposits. Promote the conservation and enhancement of the historic environment, including the promotion of heritage and landscape as central to the culture of the region and conserve and enhance distinctive characteristics of landscape and settlements. 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 this and future generations.	The need to conserve or enhance sites of archaeological importance and cultural heritage interest, and their settings, particularly those which are sensitive to the water environment.	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, heritage assets and their settings, places and spaces that enhance local distinctiveness? Will it maintain and enhance the historic environment, including palaeo-environmental deposits? Will the hydrological setting of water-dependent assets be altered, such as important wetland areas with potential for paleo-environmental deposits? Will it improve access, value, understanding or enjoyment of heritage assets and culturally/historically important assets in the region?

SEA topic	Policies, plans and programmes - key messages	Baseline - key issues	SEA objective	Key questions
Landscape and visual amenity	Protection and enhancement of landscape (including designated landscapes, landscape character, distinctiveness and the countryside). Abstraction and low river flows could negatively affect landscape and visual amenity. Enhance the value of the countryside by protecting the natural environment for this and future generations. 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 communities within it. 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. Improve 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 AONBs 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, townscapes and the countryside.	Will it avoid adverse effects and enhance designated landscapes? 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 improve access to valued areas of landscape character?

3.2 Proposed Framework for Assessment

3.2.1 Primary Assessment

An appraisal framework is proposed to assess each of the potential Drought Plan measures against the SEA objectives (as set out in **Table 3.1**). The appraisal framework will be applied to test the performance of each of the alternative measures against the SEA objectives. The assessment will be used to inform the selection and phasing of measures for inclusion in Bristol Water's Drought Plan. The proposed appraisal framework table is given in **Table 3.2** and is structured as follows:

- The first and second columns of **Table 3.2** set out the SEA topics and objectives.
- The third column will be populated during the assessment with a commentary and evaluation of the impact of each alternative measure on the objectives for each topic, with reference to the key questions set out above in **Table 3.1.** The assessment will assume the implementation of standard best practice in implementing the measures and any defined mitigation measures (which will be clearly set out) so that the significance of effects relates to the residual effects after mitigation in line with the ODPM Practical Guide and UKWIR SEA national guidance. The mitigation measures for any identified adverse effects will be explicitly identified within the appraisal framework. The fourth column will identify the magnitude of the effect on a scale of low, medium and high.
- The value and sensitivity of the receptor(s) will be identified in the fifth column on a scale of low, medium and high.
- The scale of the effect, which might relate to either geographical scale or the size of the population affected, will be identified in the sixth column on a scale of small, medium to large.
- The significance of effect will include consideration of the nature of the impact, likelihood, duration and permanence (seventh, eighth and ninth columns of **Table 3.2**Table 3.2**)** in compliance with criteria for determining the likely significance of effects specified in the SEA Directive Article 3(5) and Annex II, and the SEA Regulations Part 2, Regulation 9(2a) and Schedule 1. With respect to duration, short-term impacts will be defined as those that last for up to six months, medium term impacts are those that extend for six months to two years whilst long term impacts are assessed as those that continue for greater than two years.
- The residual adverse and beneficial effects (after application of best practice approaches and any appropriate and explicit mitigation measures) will be identified in the tenth and eleventh columns respectively. These will be identified separately so as to avoid mixing adverse and beneficial effects, in line with SEA best practice.

Where qualitative and/or quantitative information is available for any Drought Plan measure (e.g. from the HRA), this will be used to inform the assessment. Objectives or key questions that are not supported by available data or information will be evaluated using spatial analysis, professional judgement and appropriate assessment guidelines relating to that topic/objective.

The SEA appraisal framework will be used to capture the assessment for each Drought Plan measure.

Varying levels of uncertainty are inherent within the assessment process. The assessment will minimise uncertainty through the application of expert judgement. The level of uncertainty for each SEA objective is included in the appraisal framework. Where there is significant uncertainty which precludes an effects assessment category being assigned for a particular SEA objective, an "uncertain" residual effects assessment label will be applied to that specific SEA objective.

Table 3.2 SEA Appraisal Framework to be Completed for each Potential Drought Plan Measure

Topic	SEA objective	Potential residual effect on sensitive receptors (after consideration of identified mitigation or enhancement measures	Scale of effect: (Small/ Medium/ Large)	Certainty of effect (Low/ Medium/ High)	Duration (short/ medium /long term)	Permanence of effect (permanent/ temporary)	Magnitude of effect (Low/ Medium/ High)	Value/ sensitivity of receptor (Low/ Medium/ High)	Residual Adverse Effect	Residual Beneficial Effect
Biodiversity, fauna and flora	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species and to enhance natural capital.									
	1.2 To avoid introducing or spreading INNS.									
Population and human health	2.1 To protect and enhance health and well-being (including raising awareness of the importance and value of the water environment for health and well-being).									
	2.2 To protect and enhance the water environment for other users including recreation, tourism and navigation, as well as terrestrial recreational resources (including National Trails and Public Rights of Way).									
	2.3 To promote a sustainable economy with good access to essential services, including a resilient, high quality and affordable supply of water.									

Topic	SEA objective	Potential residual effect on sensitive receptors (after consideration of identified mitigation or enhancement measures	Scale of effect: (Small/ Medium/ Large)	Certainty of effect (Low/ Medium/ High)	Duration (short/ medium /long term)	Permanence of effect (permanent/ temporary)	Magnitude of effect (Low/ Medium/ High)	Value/ sensitivity of receptor (Low/ Medium/ High)	Residual Adverse Effect	Residual Beneficial Effect
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 and secure the efficient and sustainable use of water to ensure resilient water supplies for people and businesses.									
Water	4.1 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats.									
	4.2 To protect and enhance surface and groundwater quality and protect and enhance estuarine waterbodies.									
	4.3 To ensure appropriate and sustainable management of abstractions to maintain water supplies whilst protecting ecosystem functions and services that rely on water resources									

Topic	SEA objective	Potential residual effect on sensitive receptors (after consideration of identified mitigation or enhancement measures	Scale of effect: (Small/ Medium/ Large)	Certainty of effect (Low/ Medium/ High)	Duration (short/ medium /long term)	Permanence of effect (permanent/ temporary)	Magnitude of effect (Low/ Medium/ High)	Value/ sensitivity of receptor (Low/ Medium/ High)	Residual Adverse Effect	Residual Beneficial Effect
Soil, geology and land use	5.1 To protect and enhance geology, geomorphology and the quality and quantity of soils.									
Air and Climate	6.1 To reduce air pollutant emissions.									
	6.2 To reduce greenhouse gas emissions.									
	6.3 To adapt and improve resilience to the threats of climate change.									
Archaeology and cultural heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.									
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 is determined against a significance matrix (**Figure 3.1**) which takes account of the value and sensitivity of the receptor (e.g. species, air quality, river water quality, landscape value, heritage feature) and the magnitude of the assessed effect. This significance matrix comprises effects from 'major beneficial' to 'major adverse'. Hatching has been added to the box signifying low magnitude and high receptor value/sensitivity as this could result in a greater than 'moderate' effects being assigned dependent on the sensitivity and value of the receptor. This colour coding will be used to complete the columns for residual effects in the appraisal framework.

The resulting significance of effects will be used in the selection of measures for inclusion in the Drought Plan and subsequent phasing of the selected measures.

Figure 3.1 Significance Matrix used to Assess Effects of each Drought Plan Measure on each SEA objective

Significance of Effect		Value/sensitivity of receptor		
		High	Medium	Low
Effect magnitude (includes scale of effect)	High	Major Beneficial / Major Adverse	Major Beneficial / Major Adverse	Moderate Beneficial / Moderate Adverse
	Medium	Major Beneficial / Major Adverse	Moderate Beneficial / Moderate Adverse	Minor Beneficial / Minor Adverse
	Low	= Significance of effect dependent on value/sensitivity of receptor and magnitude	Minor Beneficial / Minor Adverse	Negligible

3.2.1.1 General Significance Definitions

The general definitions for 'significance' ratings as identified in the table above 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.

For the **'high' effect magnitude** (top row), a major effect significance is assigned for both high and medium value receptors to reflect the magnitude of the effect.

For the **'low' effect magnitude and 'high' value receptor** (bottom left box), the significance of effect could be minor, moderate or major dependent on the precise nature of the impact or benefit.

All options – both supply augmentation measures and demand management measures – will be assessed to the same level of detail, and in line with the SEA legislative requirements, national SEA

guidance and the UKWIR SEA guidance. The level of detail to be developed for the environmental assessment of each measure will be consistent with the strategic nature of SEA. Further detailed assessment would be required to support any future actual applications for any drought permits or drought orders.

3.2.1.2 Summarising the effects assessment

The completed appraisal framework table for each Drought Plan measure will be presented in full in an appendix to the Environmental Report. A summary of the assessment will be presented within the main text of the Environmental Report as a colour-coded visual evaluation (VE) matrix. An example of the proposed VE matrix is given in **Table 3.3**. For each measure, the VE matrix summarises the likely significance of impacts (which will be discussed in full in the completed appraisal framework tables).

Table 3.3 Example of a Visual Evaluation Matrix

Drought Plan measure	*SEA Objective beneficial and adverse effects*																*Summary commentary of effects*
	1.1	1.2	2.1	2.2	2.3	3.1	3.2	4.1	4.2	4.3	5.1	6.1	6.2	6.3	7.1	8.1	
Measure 1																	[*summary commentary*]
Measure 2																	[*summary commentary*]

Legend:

Significance of Effect	Colour	
Major Beneficial		Dark green
Moderate Beneficial		Mid green
Minor Beneficial		Light green
Negligible		Pale blue
Minor Adverse		Yellow
Moderate Adverse		Orange
Major Adverse		Red
NOT APPLICABLE		None

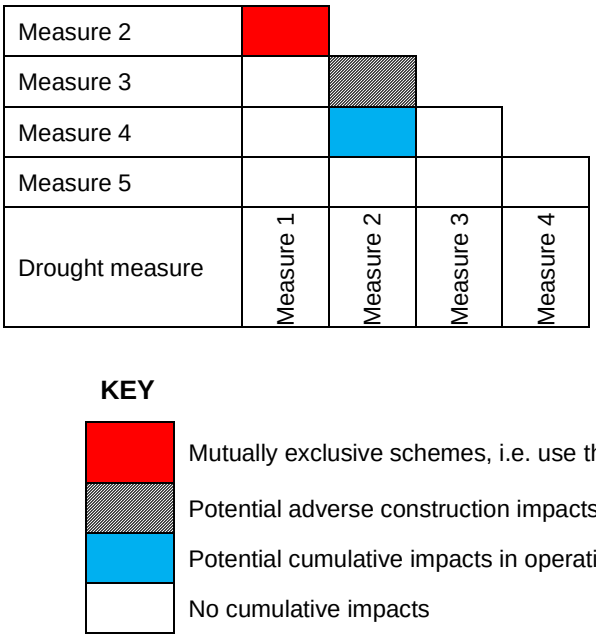
3.2.2 Secondary, Cumulative and Synergistic Environmental Effects

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…." From here on in "cumulative effects" is taken to include secondary and synergistic effects.

A cumulative effects assessment will be carried out in order to identify if different measures are mutually exclusive or whether combinations of measures might lead to greater adverse impacts (or beneficial effects), because the combination of options that would be deployed in any one drought event cannot be pre-determined. This will involve examining the likely significant effects of each of the drought measures individually, in combination with each other, and in combination with the implementation of other plans and programmes.

A matrix (see **Figure** 3.2) will be used to help consider interactions between the measures. In assessing these effects, consideration will be given to other factors which may affect the receiving environment during implementation of the measures.

Figure 3.2 Cumulative Effects Assessment Matrix



The following cumulative effects assessments are proposed in the SEA:

- An assessment of cumulative effects of measures that could potentially be implemented at the same time. Mutually exclusive measures (e.g. those that draw upon the same resource or use the same site) will also be identified.
- Assessment of cumulative effects of the Drought Plan with the Bristol Water WRMP, other water company Drought Plans and WRMPs, Environment Agency Drought Plans (and any other drought plans prepared by other bodies, such as the Canal & River Trust).
- Assessment of potential cumulative effects of the Bristol Water Drought Plan with any other identified relevant programmes, plans and projects that may be in place / implemented during the period of the Drought Plan.

Bristol Water will communicate with neighbouring companies regarding likely measures in their respective plans. Potential effects with other plans will be identified, particularly in the context of spatial and temporal proximity. Potential cumulative effects with wider plans will also be assessed. If effects are identified they can be ameliorated with early stage mitigation and associated monitoring.

Drought Plans comprise a basket of measures, the implementation of which are dependent on the particular drought conditions experienced and are subject to temporal, spatial and other factors. The exact timing of implementation of drought measures will not be known until a drought is experienced. Consequently, one of the limitations of the cumulative or in-combination assessment of Bristol Water's Drought Plan is that whilst an environmental appraisal of each measure can be undertaken, the lack of predictability of which measures will be implemented in any particular drought event means that it may be impossible to provide a definitive cumulative assessment of the impacts for a possible future drought event.

Cumulative assessments will be undertaken assuming as a worst case that the implementation of measures could occur simultaneously. Spatial proximity and therefore potential impacts on a common receptor is the primary consideration (e.g. the same designated area or reach of river).

Due to the uncertainty of timing of implementation of drought measures, the findings of the SEA will need to be reviewed during an actual drought and a cumulative assessment made of the measures proposed for implementation at that time, based on the findings of the cumulative assessments that will be set out in the Environmental Report.

4 Next Steps

4.1 Consultation on the Scoping Report

This Scoping Report represents the output of Stage A, Tasks A1 – A4 (Setting the context and objectives, establishing the baseline and proposing the scope of the SEA; for more detail see **Table 1.3**) and is to be issued to the SEA statutory bodies for comment (see Section 1.6). It will also be made available to other stakeholders via the Bristol Water website. Following consultation on this Scoping Report, some modifications may be necessary to incorporate consultee feedback, as noted below.

Task A5: Consulting on the scope of the SEA

A consultation period of five weeks will be provided for consultees to provide comments on the scope of the SEA described within this report in accordance with SEA Regulation 12(6). In order to facilitate this process, a meeting with the statutory consultation bodies (comprising the Environment Agency, Natural England and Historic England) will be offered during the consultation period. The objectives of this will be to provide an opportunity for open dialogue to be held between all the statutory bodies.

4.2 Stage B: Developing and Refining Alternatives and Assessing Effects

Stage B of the SEA process (see **Table 1.3**) comprises the SEA assessment and the development of alternative options.

Task B1. Testing the plan or programme objectives against SEA objectives

Each Drought Plan measure being considered for inclusion in the Bristol Water Drought Plan will be assessed against the objectives agreed as a result of the SEA Scoping consultation. The impacts of each Drought Plan measure on each objective will be assessed according to the methodology described in Section 3. The outputs of the assessment will be a completed appraisal framework table for each Drought Plan measure and a colour coded (major beneficial effect to major adverse effect) summary matrix which will provide a comparative assessment of the residual environmental effects of implementing each measure. This will be used by Bristol Water to inform decisions on the measures to be included in the Drought Plan and their phasing against different Drought Plan triggers; it will also highlight those measures where significant negative impacts may require consideration of alternative options, or otherwise mitigation and/or compensation measures.

Task B2. Developing strategic alternatives

A range of reasonable alternative measures will be considered for the Draft Drought Plan through the SEA, in particular in respect of the timing of implementation against defined triggers as set out in the Draft Drought Plan.

Where significant negative impacts are identified, it may be necessary to identify other alternative options, both demand management and supply augmentation. These would then be tested against the same objectives, using the same methodology as described above. If measures with better characteristics are identified, they would then be considered for inclusion within the Draft Drought Plan.

Task B3. Predicting the effects of the plan or programme, including alternatives

The provisionally preferred set of measures will be developed and then tested against the SEA objectives. Evidence from the environmental assessments will be collated into a consolidated summary matrix to establish a visual representation of the overall impacts (described in Section 3.2.1). Cumulative impacts of selected Drought Plan measures will then be carried out as described in Section 3.2.2.

Task B4 and B5. Evaluating the effects of the plan or programme, including alternatives, and mitigating adverse effects

An evaluation of the Drought Plan will be undertaken by Bristol Water including consideration of the phasing and priority order for implementation of the different measures in a drought. This process will

be recorded and be incorporated within the SEA Environmental Report and the draft Drought Plan for transparency.

Measures will be considered in the SEA to prevent, reduce or offset any identified residual significant adverse effects of implementing the Draft Drought Plan and which will, in turn, also be reflected in the accompanying Environmental Monitoring Plan of the Drought Plan where appropriate.

Task B6. Proposing measures to monitor the environmental effects of plan or programme implementation

Consideration will be given as to how any identified significant residual effects will be monitored to identify any unforeseen adverse effects and to enable appropriate remedial action to be taken. Where data uncertainties have been identified that affect the confidence/certainty of the effects assessment, recommendations for baseline monitoring and/or further data acquisition will be included. The monitoring will be reported in the Environmental Report and, where appropriate, will also be reflected in the accompanying Environmental Monitoring Plan of the Drought Plan. Monitoring requirements will be discussed in consultation with the Environment Agency, Natural England and Historic England, as applicable and any other relevant organisations.

4.1 Stage C: Preparation of Environmental Report

4.1.1 Structure and Content

The findings of the SEA will be documented in an Environmental Report (this comprises Stage C of the SEA process (see **Table 1.3)**). A draft structure for the report is proposed in **Table 4.1**. The proposed structure of the report is derived from the requirements specified by the SEA Regulations[16] and ODPM Guidelines[17]. A non-technical summary of the information will be provided under the headings listed in Schedule 2 of the SEA Regulations.

Table 4.1 Draft Structure for the Environmental Report

Non-Technical Summary	
1	**Introduction**
1.1	Background and Purpose of Report
1.2	Application of SEA to Drought Planning
1.3	Bristol Water's Supply System and Drought Planning
1.4	Drought Planning Process
1.5	Stages of SEA Process
1.6	Structure of Environmental Report
1.7	Consultation
2	**Policy Context**
2.1	Introduction
2.2	Review of Policies, Plans and Programmes
3	**Environmental Baseline Review**
3.1	Introduction
3.2	Limitations of the data and assumptions made
3.3	Overview
3.4	Key Issues

[16] SEA Regulations, Part 3, Regulations 2 and 3 and Schedule 2.
[17] Office of the Deputy Prime Minister (2005) *A Practical Guide to the Strategic Environmental Assessment Directive*.

4.2 Stage D: Consulting on the Draft Drought Plan and the Environmental Report

The Environmental Report will be published for public consultation on the Bristol Water website alongside the Draft Drought Plan. The timescale for comments to be made will be the same as those for representations on the Draft Drought Plan. As part of the statutory Drought Plan process, representations received on the Environmental Report must be considered and responses included in the Statement of Response to be published by Bristol Water: this will include details of any changes to be made to the Drought Plan as a consequence of the comments, or if no changes are to be made, setting out the reasons for this.

Once the Secretary of State has given approval for the Final Drought Plan to be published, an SEA Post Adoption Statement will be also published to inform the public that the plan has been finalised and to summarise how environmental considerations have been integrated into the final Drought Plan. The Post-Adoption Statement will include the Environmental Particulars listed in the SEA Directive/Regulations.

4.3 Stage E: Monitoring the Significant Effects of the Plan

This stage of the SEA process will only commence once the Final Drought Plan is implemented. The monitoring of significant effects will be carried out in line with the monitoring approach set out in the Environmental Report and confirmed in the SEA Post-Adoption Statement.

4.4 Quality Assurance

ODPM Guidance on SEA contains a Quality Assurance checklist to help ensure that the requirements of the SEA Directive are met. The checklist is reproduced in **Appendix C** indicating where this Scoping Report meets the requirements, and which requirements will be addressed in the Environmental Report.

Appendices

A Review of Policy, Plans and Programmes

The findings of the review of policy, plans and programmes are set out in **Table A1**. The purpose of the review and a summary of the key findings are set out in Section 2.2 of this Scoping Report. This table sets out the purpose and objectives of the policy, plans and programmes, their potential relationship with Bristol Water's Drought Plan and the potential implications of the plan objectives for the objectives of the SEA.

Table A1 - Summary of the Policy, Plans and Programmes reviewed and their link to the Strategic Environmental Assessment

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan and the SEA objectives
International	
Ramsar Convention (1971) *The Convention on Wetlands of International Importance*	
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 Drought Plan options on important wetland habitats must be considered as part of the SEA.
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 city of Bath is the closest UNESCO designated site.	The Drought Plan and SEA should take account of the need to protect scheduled monuments and archaeological areas.
The Bern Convention (1979) *The Convention on the Conservation of European Wildlife and Natural Habitats*	
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 implementation of the Drought Plan may influence biodiversity in the north west and as such the SEA should seek to maintain or enhance the quality of habitats and biodiversity.
The Bonn Convention (1983) *The Convention on the Conservation of Migratory Species of Wild Animals*	
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 Drought Plan may influence biodiversity in the north west and as such the SEA should seek to maintain or enhance the quality of habitats and biodiversity.
Granada Convention (1985) *Convention for the Protection of the Architectural Heritage of Europe*	
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.

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan and the SEA objectives
European Commission (1991), *Urban Waste Water Treatment Directive (1991/271/EC)*	
The Directive's objective is to protect the environment from the adverse effects of urban waste water discharges and discharges from certain industrial sectors and concerns the collection, treatment and discharge of domestic waste water, mixture of waste water and waste water from certain industrial sectors.	The SEA should seek to maintain, protect and improve water quality across the region.
European Commission (1991) The Nitrates Directive (91/676/EEC)	
The Nitrates Directive is designed to reduce water pollution caused by nitrate from agriculture. The directive requires Defra and the Welsh Assembly Government to identify surface or groundwaters that are, or could be, high in nitrate from agricultural sources. Once a water body is identified as being high in nitrate all land draining to that water is designated a Nitrate Vulnerable Zone. Within these zones, farmers must observe an action programme of measures which include restricting the timing and application of fertilisers and manure and keeping accurate records.	The Drought Plan should be consistent with the aim to reduce water pollution caused by nitrate from agriculture. The SEA assessment framework should include water quality.
Valletta Convention (1992) *Convention on the Protection of Archaeological Heritage of Europe (revised)*	
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.
European Commission (1992) *Habitats Directive (1992/43/EC)*	
The aim of the Directive is to promote the maintenance of biodiversity by requiring Member States to take measures to maintain or restore natural habitats and wild species listed on the Annexes to the Directive at a favourable conservation status, introducing robust protection for those habitats and species of European importance.	The impacts of the Drought Plan options on internationally designated sites and species must be considered as part of the SEA.
United Nations (1992), *Convention on Biological Diversity (CBD)*	
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 Drought Plan options and the SEA should seek to promote the protection and enhancement of biodiversity.
United Nations Economic Commission for Europe (1998) *Aarhus Convention - Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters*	
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,	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.

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan and the SEA objectives
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 SEA should seek to provide easily understood information to the public on the environmental implications of the Drought Plan and its constituent options.
European Commission (1998), *Drinking Water Directive (1998/83/EC)*	
The objective of the Drinking Water Directive is to protect the health of the consumers in the European Union and to make sure the water is clean and of good quality. To make sure drinking water everywhere in the EU is healthy, clean and tasty, the Drinking Water Directive sets standards for the most common substances (so-called parameters) that can be found in drinking water. A total of 48 microbiological and chemical parameters must be monitored and tested regularly.	The SEA should seek to ensure that objectives address water quality in the region, particularly drinking water quality.
European Commission (2000), *The Water Framework Directive (2000/60/EC)*	
This Directive establishes a framework for the protection of inland surface waters, transitional waters, coastal water and groundwater. It also encourages the sustainable use of water resources. Key objectives are general protection of the aquatic ecology, specific protection of unique and valuable habitats, protection of drinking water resources, and protection of bathing water.	The SEA should seek to promote the protection and enhancement of all water resources.
Council of Europe (2000) *European Landscape Convention (Florence Convention)*	
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.
United Nations (2002), *Commitments arising from the World Summit on Sustainable Development, Johannesburg*	
The World Summit on Sustainable Development proposed broad-scale principles which should underpin sustainable development and growth. It included objectives such as: • Greater resource efficiency • Work on waste and producer responsibility • New technology development • Push on energy efficiency • Integrated water management plans needed Minimise significant adverse effects on human health and the environment from chemicals by 2020.	These commitments are the highest level definitions of sustainable development. The Drought Plan should be influenced strongly by all of these themes and should seek to take its aims into account. The SEA should seek to promote the achievement of the sustainable development objectives outlined in this plan.
Council of Europe (2003) *European Soils Charter*	

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan and the SEA objectives
Sets out common principles for protecting soils across the EU and will help.	The SEA should seek to ensure that the quality of the regions land, including soils, is protected or enhanced.
European Commission (2006) *Thematic Strategy for Soil Protection*	
The Thematic Strategy for Soil Protection consists of a Communication from the Commission to the other European Institutions, a proposal for a framework Directive (a European law), and an Impact Assessment.	The SEA assessment framework should include soils.
European Commission (2007), *Floods Directive (2007/60/EC)*	
The Directive's aim is to reduce and manage the risks that floods pose to human health, the environment, cultural heritage and economic activity. The Directive shall be carried out in coordination with the Water Framework Directive, notably by flood risk management plans and river basin management plans being coordinated, and through coordination of the public participation procedures in the preparation of these plans.	The SEA should seek to ensure that flood risk in the region is not adversely affected by the implementation of the Drought Plan.
European Commission (2008) *Ambient Air Quality Directive (2008/50/EC)*	
The 2008 directive sets legally binding limits for concentrations in outdoor air of major air pollutants that impact public health such as particulate matter (PM10 and PM2.5) and nitrogen dioxide (NO2). There are also indirect effects as these pollutants can combine in the atmosphere and contribute to greenhouse gases which can be transported great distances by weather systems.	The implementation of the Drought Plan may have some influence on air quality, either directly or indirectly, through construction or operational activities. The SEA should take account of the need to ensure that the region's air quality is maintained or enhanced, and that emissions of air pollutants are kept to a minimum. seek to help meet regional air quality targets.
European Commission (2009), *Birds Directive (2009/147/EC)*	
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 mechanisms for their achievement are at the discretion of each Member State (in the UK delivery is via several different statutes).	The SEA should seek to protect and conserve important bird habitats.
European Commission (2009), *Promotion of the use of energy from renewable sources Directive (2009/28/EC)*	
This promotes the use of energy from renewable sources.	The SEA should take account of the need to seek to promote the use of renewable energy.
European Commission (2020), *The EU Biodiversity Strategy for 2030*	
The strategy aims to halt the loss of biodiversity and ecosystem services in the EU and help stop global biodiversity loss by 2020. It reflects the commitments taken by the EU in 2010, within the international Convention on Biological Diversity.	The implementation of the Drought Plan may influence biodiversity in the Bristol Water area and as such the SEA should take account of the need to maintain or enhance the quality of habitats and biodiversity.
The Paris Agreement (2016), Cancun Agreement (2011) and Kyoto Agreement (1997)	
These agreements represent key steps forward in capturing plans to reduce greenhouse gas emissions	The SEA should consider the need for water companies to seek to promote a reduction in

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan and the SEA objectives
and to help developing nations protect themselves from climate impacts and build their own sustainable futures. It includes a shared vision to control the global rise in temperature.	greenhouse gas emissions in carrying out its service activities.
European Commission (1999) *Landfill of Waste Directive (99/31/EC)*	
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 Drought Pan 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.
National	
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.
Wildlife and Countryside Act (as amended) (1981)	
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 Drought Plan may have effects on habitats and species. The SEA should seek to maintain or enhance the quality of habitats and biodiversity and take regard of protected species and habitats.
Planning (Listed Buildings and Conservation Areas) Act 1990	
This Act addresses listed buildings including the prevention of deterioration and damage and preservation and enhancement of conservation areas.	The Drought Plan and SEA should take account of the need to protect listed buildings and conservation areas.

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan and the SEA objectives
Water Resources Act, 1991 (Amendment) 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.
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 Drought Plan must take into account this legislation.
The Countryside and Rights of Way (CROW) Act, 2000	
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 AONBs Strengthens wildlife enforcement legislation.	The SEA should include objectives that take into account public access, protection of SSSIs and the management of relevant landscape designations.
Department for Culture, Media and Sport (2001) *The Historic Environment – A Force for the Future*	
This strategy outlines the Government's 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 implementation of the Drought Plan may have an influence on the heritage of the region, in particular if options affect surface water levels. The SEA should seek to ensure any adverse effects on heritage assets are minimised or avoided.
The Water Act (2003) (as amended)	
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 Drought Plan may have an effect through its role in maintaining supplies of water. The SEA should seek to promote sustainable use of water resources.

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan and the SEA objectives
The Water Environment (Water Framework Directive) Regulations (England and Wales) 2017	
These Regulations implement the Water Framework Directive and set out a range of statutory actions to secure and maintain Good Ecological Status or Potential for all water bodies designated under WFD.	The Drought Plan should seek to maintain, protect and improve ecological status across the region and prevent any deterioration of WFD status. The SEA will be informed by the parallel WFD compliance assessment of the Drought Plan.
Defra (2004) Rural Strategy	
The strategy sets out rural and countryside policy and draws upon from lessons learnt following the rural white paper. Objectives include supporting economic and social regeneration across rural England and enhance the value of the countryside and protect the natural environment for this and future generations.	The implementation of certain Drought Plan options may have an effect upon rural communities and the countryside. The SEA should also seek to ensure that the quality of the region's landscapes, natural resources and biodiversity are maintained or enhanced.
Defra (2004) The First Soil Action Plan for England	
This plan is a comprehensive statement on the state of the UK's soils and how Government and other partners were working together to improve them. It aims to ensure that England's soils will be protected and managed to optimise the varied 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.	The SEA should seek to ensure that the quality of the region's land, including soils, is protected or enhanced.
Defra (2005) Securing the Future: Delivering UK Sustainable Development Strategy	
The strategy for sustainable development aims to enable all people to satisfy their basic needs and enjoy a better quality of life without compromising the quality of life of future generations. The strategy places a focus on protecting natural resources and enhancing the environment.	The SEA must seek to ensure that objectives relating to sustainable development, sustainable resource use and protecting the natural environment, are considered when assessing the potential impacts of the Drought Plan.
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 Drought Plan.
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 is designed to help achieve a rich and diverse natural environment and thriving rural communities.	The SEA should seek to maintain or enhance the quality of habitats and biodiversity. The impacts of the Drought Plan on any designated features, as highlighted in the Natural Environment and Rural Communities Act, should be addressed.

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan and the SEA objectives
Environment Agency (2007) Soil: A Precious Resource	
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 Drought Plan should ensure the sustainable management of soil resources. SEA objectives should reflect and consider relevant priorities from the Soil: A Precious Resource publication.
Department for Business, Energy and Industrial Strategy (2020) Energy White Paper	
The Energy White Paper provides puts in place a strategy for the wider energy system that: Transforms energy, building a cleaner and greener future. Supports a green recovery, supporting thousands of green jobs across the country in new green industries and leveraging new green export opportunities. Creates a fair deal for consumers, protecting the fuel poor. It includes the goal that by 2050, emissions from industry will need to fall by around 90 per cent from today's levels.	The implementation of the Drought Plan may have an influence upon Bristol 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.
Defra (2007), Conserving Biodiversity in a Changing Climate: Guidance on Building Capacity to Adapt	
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 (2011) 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.

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan and the SEA objectives
The Climate Change Act 2008	
This act sets carbon targets for 2050. Originally the target was for net carbon account for 2050 at least 80% lower than 1990 baseline, however, this was revised in 2019 to be at least 100% lower in line with the net zero ambition.	This target needs to be taken into account by the SEA.
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.
The Eels 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 should seek to maintain the quality of habitats and biodiversity and take regard of protected species identified. This should include migratory fish species and their migratory passage.
Defra (2009) Safeguarding our soils – A Strategy for England	
The new 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.
Environment Agency (2009), *Water Resources Strategy for England and Wales*	
Launched on 30 March 2009, covering the actions that the Environment Agency believes need to be taken to ensure that there is enough water for people and wildlife in the face of future pressures. These include: • climate change • population growth • diffuse pollution • water for wildlife and wetlands	The SEA should seek to ensure that strategy objectives are also reflected in the SEA objectives, particularly around water resource use and availability in the region.

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan and the SEA objectives
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.
Environment Agency (2010), *Water Resources Action Plan for England and Wales*	
The strategy has four main aims: • Adaptation to and mitigation of climate change; • A better water environment; • Sustainable planning and management of water resources; • People valuing water and the water environment.	The SEA should seek to ensure that strategy objectives are also reflected in the SEA objectives particularly regarding the sustainable management of water resources and protecting the environment.
Flood and Water Management Act (2010) as amended	
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 Drought Plan and that water supplies across the region are maintained.
Historic England (2020) Heritage at Risk	
Heritage at risk is a national programme 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 2019.	The SEA should seek to protect and enhance and landscape.
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. Information and tools to enable decision makers to understand the wider value of ecosystems and their associated services.	For the purposes of the readership integrating an ecosystems services approach into the SEA is not being undertaken. However, it is realised that through the 'Objective-led' approach, many of the services relevant to the Drought Plan 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 Drought Plan effects the related provisioning services in the least damaging way through informing the Drought Plan formulation

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan and the SEA objectives
	and selection of Drought Plan options during times of Drought. In the event of further guidance being issued on incorporating ESA into SEA, the anticipated approach is sufficiently flexible that it should be able to accommodate this (subject to timing).
Defra (2011) Water for Life – Water White Paper	
This sets out market reform in the water sector.	The Drought Plan should take into account the contents of this paper.
Defra (2011) The Natural Choice: securing the value of nature, The Natural Environment White Paper	
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 Drought Plan supports the provisioning service of freshwater through ensuring security of supply during times of drought. The media campaigns that form part of the Demand side Drought Plan options 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 Drought Plan effects the related provisioning services in the least damaging way through informing the Drought Plan formulation and selection of Drought Plan options 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 Drought Plan 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) 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"	The Drought Plan may involve options that involve the generation of waste (e.g. either through construction requirements or operation of supply side options). 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 and the SEA objectives
in which material resources are re-used, recycled or recovered wherever possible, and only disposed of as the option of very last resort.	
Department of Energy and Climate Change (2011) National Policy Statements for Energy Infrastructure	
The energy National Policy Statements (NPSs) set out national policy against which proposals for major energy projects will be assessed and decided on by the Infrastructure Planning Commission. The purpose of the NPSs is to develop a clear, long-term policy framework which facilitates investment in the necessary new infrastructure (by the private sector) and in energy efficiency. It highlights that the construction, operation and decommissioning of infrastructure can lead to increased demand for water, involve discharges to water and cause adverse ecological effects resulting from physical modifications to the water environment.	The SEA should consider the cumulative effects of the Drought Plan and any major energy proposals which may affect the availability of water in the Bristol Water supply area.
Environment Agency (2011) National Flood and Coastal Risk Management Strategy for England	
This strategy provides the overarching framework for future action by all risk management authorities to tackle flooding and coastal erosion in England, building on existing approaches. Risk should be managed in a co-ordinated way within catchments and along the coast and balance the needs of communities, the economy and the environment. This strategy will form the framework within which communities have a greater role in local risk management decisions and sets out the Environment Agency's strategic overview role in flood and coastal erosion risk management (FCERM).	The SEA should consider how the Drought Plan may affect flood and coastal risk across the region.
Natural England (2011) *UK Geodiversity Action Plan*	
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 Drought Plan should have regard to the aims and objectives of the UKGAP. The SEA framework should consider effects of options on geodiversity and outline enhancement and mitigation opportunities where these are identified.
Defra (2012) The UK Evidence Report	
Five themes are identified that form the priorities for adaptation in the UK.	The SEA should take into account the need for climate change adaptation.

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan and the SEA objectives
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 Drought Plan considers any unforeseen NSIP proposals that come forward prior to adoption which may affect water resources in the Bristol Water area.
Environment Agency (2013), *Managing Water Abstraction*	
This sets out how the EA manages water resources in England.	The SEA should consider the range of impacts that changes to abstractions could have on the environment, including water bodies, biodiversity, and water users.
Historic England (2013) Strategic Environmental Assessment, Sustainability Appraisal and the Historic Environment	
Guidance for addressing the historic environment in Strategic Environmental Assessment or river bas. 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 Drought Plan on the historic environment, particularly designated assets and their settings, and to important wetland areas with potential for palaeo-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.
Defra and Welsh Government (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 Drought Plan should take into account the contents of this statutory guidance
Defra (2015) The Great Britain Invasive Non-native Species Strategy	
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 invasive non-native species in Great Britain.	The implementation of the Drought Plan may influence biodiversity in the south east and as such the SEA should seek to maintain or enhance the quality of habitats and biodiversity.
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 and the SEA objectives
Environment Agency (2017) Drought response: our framework for England	
This framework describes how drought affects England and how the EA works closely with the government, water companies and others to manage the effects of drought on people, business and the environment. Specifically, the framework sets out: • How drought affects different parts of England • Who is involved in managing drought and how they work together • How the agency and others take action to manage drought • How we monitor and measure the impacts of drought to advise senior management and government on the prospects and possible action How we report on drought and communicate with others	The supply of water resources in the region may be affected by future drought, therefore this framework is linked closely with the Drought Plan. The Drought Plan and SEA need to take account of the guidance provided by the Environment Agency.
Defra, Environment Agency, Natural England, Forestry Commission England (2016) Creating a great place for living	
Sets out a number of objectives linked to creating 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 options (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).
HM Government (2016) National Infrastructure Delivery Plan 2016-2021	
This plan updates and replaces the previous National Infrastructure Plan and takes a targeted approach to infrastructure investment and delivery across different sectors over five years. These are all critical to support economic growth through the expansion of private sector businesses across all regions and industries, to enable competitiveness and to improve the quality of life of everyone in the UK. The plan recognises the pressure on future water and waste services from population growth and climate change.	The Drought Plan could result in the production of additional waste. The SEA should seek to reduce the production of waste and ensure it is treated in line with the widely adopted 'waste hierarchy' and not sent to landfill. The Drought Plan can contribute to the providing resilient water services.
Historic England (2016) Climate Change and the Historic Environment	
Sets out the current thinking on the implications of climate change for the historic environment. It is	The SEA should seek to assess the implications of the Drought Plan in combination with climate change

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan and the SEA objectives
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.	and the potential impacts on heritage and the historic environment.
Conservation of Habitats and Species Regulations (as amended) 2017	
These regulations consolidate all the various amendments made to the Conservation (Natural Habitats) Regulations 1994 in England. 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 as such its main objective is to promote the maintenance of biodiversity.	The Drought Plan must fully comply with the Regulations. The impacts of the Drought Plan options on biodiversity and protected species and sites must be considered as part of the SEA.
HM Government (2018) A Green Future: Our 25 Year Plan to Improve the Environment	
This plan sets out government action to help the natural world regain and retain good health. It aims to deliver cleaner air and water in cities and rural landscapes, protect threatened species and provide richer wildlife habitats – using a natural capital approach to better-inform policy. By adopting the plan, the government aims to achieve clean air; clean and plentiful water; thriving plants and wildlife; a reduced risk of harm from environmental hazards such as flooding and drought; using resources from nature more sustainably and efficiently; and, enhanced beauty, heritage and engagement with the natural environment. In addition, the plan will set out to manage pressures on the environment through; mitigating and adapting to climate change, minimising waste, managing exposure to chemicals and enhancing biosecurity. The six key areas for action are: • Using and managing land sustainably, which includes embedding an 'environmental net gain' principle for development (including housing and infrastructure) • Recovering nature and enhancing the beauty of landscapes • Connecting people with the environment to improve health and wellbeing • Increasing resource efficiency, and reducing pollution and waste • Securing clean, productive and biologically diverse seas and oceans Protecting and improving the global environment	The Drought Plan may influence the environmental benefits and pressures identified in the Environment Plan, such as: • Clean air • Clean and plentiful water • Thriving plants and wildlife • Reducing risks of harm from environmental hazards • Using resources from nature more sustainably and efficiently • Enhancing beauty, heritage and engagement with the natural environment • mitigating and adapting to climate change • minimising waste • managing exposure to chemicals • enhancing biosecurity The SEA should ensure that the impacts of any drought options on the 25-year goals set out in the Environment Plan are fully considered, whilst taking into account environmental net gain and natural capital approach, which the government have identified as principle themes.

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan and the SEA objectives
Ministry of Housing, Communities and Local Government (2019) National Planning Policy Framework	
The NPPF sets out the Government's planning policies for England. The revision to the NPPF published in February 2019 broadly continues the guidance set out in the 2012 NPPF, with more emphases on housing, design, efficient use of land and continued reference to an objective of achieving net gains. It 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. However, the 'presumption in favour of sustainable development' is not applicable where any adverse impacts would significantly outweigh the benefits, when assessed against all policies in the NPPF or where specific policies indicate development should be restricted. This includes proposed developments that affect European designated sites, Green Belt or AONB land. It presents guidance under broad themes which include: Promoting healthy and safe communities; Meeting the challenge of climate change, flooding and coastal change; Conserving and enhancing the natural environment; and Conserving and enhancing the historic environment.	Any permanent construction activities in the Drought Plan should take account of the key components of the NPPF to ensure sustainable development and seek to promote biodiversity net gain.
Environment Agency (2020) Meeting our future water needs: a national framework for water resources	
The organisations responsible for England's water supplies have understood the long term needs of sectors that depend on a secure supply of water – public water supply, agriculture, power generation, industry and the environment. These needs will be met through the development of regional water resources plans. Agreed what the regional plans should deliver and how, so they drive a step-change in water resources planning. The national framework identifies strategic water needs for England and its regions across all sectors up to and beyond 2050. Sets out a strategic direction for the work being carried out by regional water resources groups by exploring the range of approaches available to meet the likely pressures	The Drought Plan should consider the water resource framework and what it states should be included in a plan.
Environment Agency (various dates) Abstraction Licensing Strategies	
Sets out how much water is available for abstraction within each key river catchment, taking into account the needs of the environment and existing abstractors.	The Drought Plan should consider relevant catchment strategies and any environmental protection measures of relevance to the Drought Plan options.
Defra (2020) Enabling a Natural Capital Approach (ENCA)	
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:	The SEA will help to inform future development by TWUL and therefore should consider the effect of the drought options on opportunities for natural capital.

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan and the SEA objectives
• 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.	
Environment Agency (undated) Hydroecology: Integration for modern regulation	
This paper describes clear way forward in terms of hydroecology and a strategic direction to its development and application.	The Drought Plan and SEA should ensure relevant ecological considerations are integral to water resource evaluation and management decisions across the range of temporal and spatial scales.
Environment Agency (undated), *WFD River Basin Characterisation Project: Technical Assessment Method - River abstraction and flow regulation*	
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 Drought Plan may impact river water quality. The SEA should seek to promote the protection and enhancement of biodiversity and river water quality across the region.
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 Drought Plan 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.
Department of Energy and Climate Change (2011) Planning our electric future: a White Paper for secure, affordable and low carbon electricity	
This white paper outlines a package of reforms so that by 2030 there will be a flexible, smart and responsive electricity system, powered by a range of low carbon sources of electricity. This includes engaging with consumers on energy use. Decarbonisation is important in meeting the 2050 targets.	The implementation of the Drought Plan may have an influence upon Bristol 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.
Regional and Local	
Bristol Water (2019) Business Plan 2020-2025: Bristol Water For All)	
The business plan sets out proposals from Bristol Water for customers, stakeholders and for Ofwat. It includes proposals for price controls for 2020-25, set in a longer-term context for the future of water services for all the communities Bristol Water serves. The plan	The Drought Plan should seek to support he Business Plan and the SEA framework should consider and echo the priorities set out in the Business Plan.

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan and the SEA objectives
outcomes were developed with customers' priorities in mind: Outcome 1: Excellent Customer Experiences Outcome 2: Local Community and Environmental Resilience (which includes initiatives to deliver on the promise of building biodiversity and protecting the environment such as the performance commitment regarding Bristol Water's biodiversity index and compliance with the Water Industry National Environment Programme (WINEP). Outcome 3: Safe and Reliable Supply of Water Outcome 4: Corporate and Financial Resilience	
Bristol Water (2019) Final Water Resources Management Plan 2019	
The Water Resources Management Plan 2019 (WRMP19) presents Bristol Water's approach to the management of water resources for the benefit of customers, the wider community and the environment in the period 2020 to 2045. The WRMP19 is closely linked with the findings of the process to develop the existing Bristol Water Drought Plan (2018).	The Drought Plan will take into account the objectives of Bristol Waters WRMP.
Natural England Site Improvement Plans (2014-15): South West (SIPs)	
SIPs have been developed as part of the Improvement plan for England's Natura 2000 sites. These plans outline the current and predicted issues affecting the sites and the measures required to improve their condition. These are live documents intended to reflect changes in the evidence base. Objectives of site improvement plans include: • Control of Invasive species • Management of public access and land use • Monitoring and action against diseases that affect trees. Monitoring of species distribution and identifying any necessary action.	The SEA should seek to maintain or enhance the quality of habitats and biodiversity. The impacts of the Drought Plan on Natura 2000 sites should be addressed.
Environment Agency and Defra, (2015) River Basin Management Plan for Severn and South West River Basin Districts	
River basin management plans provide a framework for protecting and enhancing the benefits provided by the water environment. Water and land resources are closely linked and so the plans also inform decisions on land-use planning. Environmental objectives include the following: • Prevention of deterioration to the status of surface waters and groundwater. • To achieve objectives and standards for protected areas. • To aim to achieve good status for all water bodies or, for heavily modified water bodies and artificial water bodies, good ecological potential and good surface water chemical status. • Reversal of any significant and sustained upward trends in pollutant concentrations in Groundwater.	The Drought Plan 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 and the SEA objectives
• The cessation of discharges, emissions and loses of priority hazardous substances into surface waters. • To progressively reduce the pollution of groundwater and prevent or limit the entry of Pollutants.	
Bristol Avon Catchment Partnership (2016) Catchment Plan	
The Bristol Avon Catchment Management Plan is the product of consultation with a range of stakeholders. The Bristol Avon Catchment Partnership have formulated a strategy to deliver a healthy river with high quality environment for both people and wildlife. It is also intended as a route to achieve Water Framework Directive Objectives. It summarises key issues in the catchment and outlines a shared vision for how assets can be maintained and enhanced. The Partnership Actions are as follows: • To improve public understanding about the value and services provided by the catchment. • To improve water and flood risk management. • Improve land management and sustainable agriculture. • To improve wastewater management. • To improve river management. • To Improve recreation management. To Increase and better coordinate investment opportunities.	The Drought Plan operation may have the potential to affect several of the Catchment Management Plans objectives. The SEA will include objectives that take into account the objectives of the Plan where relevant
Local Plans and Core Strategy for impacted local authorities – Bristol, North Somerset, South Gloucestershire and Bath and North East Somerset	
Local plan forms part of each local authority's statutory Development Plan. In their local plans each local authority identifies the main social, physical and economic characteristics and issues present. The plans then outline strategic objectives for future developments and a delivery strategy to accompany these. Strategic Objectives include: • Ensuring a sustainable future and developing green capital. • Enabling ambitious and sustainable economic growth. • Appropriate housing provision and a high-quality built environment. • Fostering a pattern of development that improves health and wellbeing. • Effective waste management and minimisation of waste in new development. Adapting to climate change and promotion of renewable energy.	Options in the Drought Plan have potential to cause social, economic and environmental effects. The SEA assessment framework should consider the effects of the Drought Plan on the achievement of the strategy's key priorities and the effects on water management, natural capital, landscape and biodiversity.
Bristol Health and Wellbeing Policy 2020-2025	
This strategy seeks to reduce the disparity in health outcomes between deprived and affluent areas of Bristol. It aims for citizens to thrive in a city that support mental and physical health and wellbeing.	The Drought Plan and SEA should take account of the aims of the strategy to promote health outcomes.
Environment Agency (2009 and 2012) Catchment Flood Management Plans; Bristol Avon, Severn Tidal Tributaries, North and Mid Somerset	

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan and the SEA objectives
Catchment flood management plans (CFMPs) explore all forms of inland flooding including fluvial groundwater, surface water and tidal flooding. In addition, CFMPs include: • Potential impacts of climate change • The effects of current land use and land management. • Sustainable management of flood risk areas and the preservation of vital assets. CFMPs also help to establish effective management for future flood risk.	The Drought Plan 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 Drought Plan may affect flood risk across the region.
Environment Agency (2016) South West and Severn River Basin Districts, Flood risk management plans 2015-2021	
Over the 6-year period of implementation the Flood Risk Management Plan has sought to: • Reduce flood risk to people, property, infrastructure and services. • Enable regeneration of existing communities and businesses. • Increase resilience of South West transport infrastructure. • Promote understanding of flood risk. • Align the priorities of different River Management Authorities. • Protect and work with natural river processes and restore watercourses to their natural state. • Promote environmental benefits and achieve WFD objectives through Flood Risk Management activities. • Improve understanding of the influence of land use changes and support land use managers to deliver beneficial practices.	The Drought Plan links to these plans where it affects flood risk or land management, for example through changes in abstraction or water storage. The SEA should consider how the Drought Plan may affect flood risk across the region.
National Character Area (NCA) profiles for areas impacted by the Drought Plan	
NCA profiles are guidance documents intended to inform community decision making regarding each of the NCAs. They support the planning of conservation initiatives, inform the delivery of Nature Improvement Areas and encourage collaborative working through Local Nature Partnerships. Each profile contains Statements of Environmental Opportunity (SEOs) that offer guidance on critical issues within the area and promote sustainable growth.	The Drought Plan 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).
Air Quality Annual Status Reports for Bristol City Council, South Gloucestershire District Council and North Somerset Council (2019)	
These reports provide an overview of air quality in each of the local authorities. They review the current standard of air quality in their areas and compare them to national statutory air quality objectives. The Annual Status Reports demonstrate the strategies employed by the council and any progress that has been made towards improving air quality.	The implementation of the Drought Plan may have some influence on air quality, either directly or indirectly, through construction or operational activities. The SEA should take account of the need to ensure that the region's air quality is maintained or enhanced, and that emissions of air pollutants are kept to a minimum. Seek to help meet regional air quality targets.

Objectives identified in the Policy, Plan or Programme	Influences on the Drought Plan and the SEA objectives
Bristol City Council Mayor's Climate Emergency Action Plan (2019), South Gloucestershire Council: Local Greenhouse Gas Report (2019/2020), North Somerset Climate Emergency Strategy 2019	
This plan outlines Bristol City Council's approach to management of the historic environment of the city. The objectives of the plan are to safeguard heritage for future generations, promote a sustainable urban environment and to ensure the effective use of limited council resources and community input.	The implementation of the Drought Plan may have an influence on the heritage of the region, in particular if options affect surface water levels. The SEA should seek to ensure any adverse effects on heritage assets are minimised or avoided.
Individual Conservation Area Appraisals	
Conservation Area Appraisals support the management of change in a way that conserves and enhances the character and appearance of historic areas. They interact with local and neighbourhood plans. Objectives include: • Identification of new conservation areas or extensions to existing assets. • Appraisal of conservation areas. • Designation of sites. • Managing proposals in conservation areas. Review of current conservation areas.	The Drought Plan and SEA should consider the need to protect conservation areas.
Bristol City Council: Our Inherited City: Heritage Statement Guidance: 2020	
This plan outlines Bristol City Council's approach to management of the historic environment of the city. The objectives of the plan are to safeguard heritage for future generations, promote a sustainable urban environment and to ensure the effective use of limited council resources and community input.	The implementation of the Drought Plan may have an influence on the heritage of the region, in particular if options affect surface water levels. The SEA should seek to ensure any adverse effects on heritage assets are minimised or avoided.
South Gloucestershire Local Plan: Policies, Sites and Policies Plan Adopted November 2017	
The objectives of the South Gloucestershire Local Plan: Policies, Sites and Places Plan include: • Responding to Climate Change and high-quality design. • Managing Future Development. • Tackling congestion and improving accessibility • Managing the Environment and Heritage. • Maintaining Economic Prosperity. • Providing Housing and Community Infrastructure.	The Drought Plan may influence local plan objectives. The SEA should include objectives that consider the objectives of the South Gloucestershire Plan where relevant.

B Environmental Baseline Review

B.1 Biodiversity, Fauna and Flora

B.1.1 Baseline

Biodiversity comprises the variety of plants (flora) and animals (fauna) in an area, and their associated habitats. The importance of preserving biodiversity is recognised from an international to a local level. Biodiversity has importance in its own right and has value in terms of quality of life and amenity.

Drought management measures have the potential to affect biodiversity, flora and fauna due to the operational abstraction of water during times of water stress. The sensitivity of environmental features that can be affected by implementing drought management measures is site specific. A drought is transient, and the deployment of a drought management measures would only be for a limited period of time. Therefore, the duration of effects on sensitive features and the reversibility of the effects post drought are important considerations.

Designated Sites

The assessment area includes a variety of sites that are designated at an international, European, national or local level as important for biodiversity, flora and fauna, including:

- 9 Ramsar Sites
- 10 Special Protection Areas (SPA) [18]
- 26 Special Areas of Conservation (SAC) [19]
- 195 Sites of Special Scientific Interest (SSSI) [20]
- 24 National Nature Reserves (NNR) [21]
- 67 Local Nature Reserves (LNR) [22]

Figure B1 and **B2** show the location of these designated sites.

[18] Special Protection Areas (SPAs) are strictly protected sites classified in accordance with Article 4 of the EC Directive on the conservation of wild birds (79/409/EEC), also known as the Birds Directive, which came into force in April 1979. They are classified for rare and vulnerable birds, listed in Annex I to the Birds Directive, and for regularly occurring migratory species. www.jncc.org.uk
[19] Special Areas of Conservation (SACs) are protected sites designated under the EC Habitats Directive. Article 3 of the Habitats Directive requires the establishment of a European network of important high-quality conservation sites.
[20] Natural England now has responsibility for identifying and protecting the SSSIs in England under the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000).
[21] NNRs are protected under Sections 16 to 29 of the National Parks and Access to the Countryside Act, 1949 and the Wildlife and Countryside Act, 1981.
[22] LNRs – places with wildlife or geological features that are of special interest locally.

Bristol Water Drought Plan SEA

Legend

- Assessment Area
- SSSI
- SPA
- SAC
- Ramsar
- Ancient Woodland

FIGURE TITLE: Bristol Water Drought Plan SEA Scoping Report: Conservation Designations

SCALE: 1:300,000

DATE: December 2020

FIGURE: Figure B1

Priority Habitats and Species

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 habitats[23] designated within the Act that may be found within the assessment area. These include rivers and streams, reedbeds, fens and water meadows. Important water-related NERC species within the assessment area listed 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

Ancient Woodlands

Ancient woodlands in England are important habitats that should be protected. An ancient woodland is any wooded area that has contained woodland continuously since at least 1600 AD. They tend 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. Areas of ancient woodland are shown on **Figure B1**.

Water Framework Directive - ecological status

The 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. oxygen or ammonia and concentrations of specific pollutants). See the 'Water' topic for details on water quality and ecological condition of water bodies.

Water abstraction and associated infrastructure can sometimes result in adverse effects on water-related sites. Impacts on biodiversity may be caused by the drying out of wetland habitats, lower water levels and slower flows in watercourse, deterioration in water quality, change in water temperature, or the transfer or proliferation of invasive species. The various WFD River Basin Management Plans (RBMPs) relevant to the study area identifies changes to the natural flow and level of water as one of the major issues affecting the ecology of rivers – these being related to abstraction and flow regulation measures.

B.1.1.1 Invasive Non-Native Species (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 invasive species being established. There are

[23] Species or habitats of principal importance for the conservation of biodiversity in England, identified in the Natural Environmental and Rural Communities (NERC) Act 2006 Section 41.

approximately 2000 non-native species established in Britain, with the majority in the terrestrial environment and smaller numbers in marine and freshwater environments. Invasive species in the River Severn area, for example, include mink and Japanese knotweed, to those with currently less extensive distribution, such as the sunbleak fish in parts of Somerset and the highly invasive aquatic plant pennywort found at a number of coastal freshwater bodies[24]. Non-native species cause significant adverse impacts, including out-competing native species and spreading disease. The UK Government 2015 strategy on invasive non-native species[25] builds on previous strategies to provide a framework for coordinated action to prevent spread and work to eradicate species across the UK.

B.1.2 Future Baseline

It is not expected that many additional sites will be designated under international or national legislation over the life of the Drought Plan, with the focus therefore on achieving the conservation objectives set for each of the existing sites, and in a small number of cases in the area, the provision of compensatory habitat where development activities have led to an adverse effect on a European Site. A range of measures are included in the management plans for each site to contribute to these objectives and, assuming sufficient resources are in place, it is likely that the condition of these sites will improve over the next two or three decades to reach the 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 local environmental initiatives. An improving trend in condition of these sites is also anticipated with greater resources (particularly voluntary resources) devoted to their protection and enhancement. It is acknowledged that there is a need to allow wildlife to adapt to the impacts of climate change.

The Defra 25 Year Environment Plan[26] includes a commitment to restore restoring 75% terrestrial and freshwater protected sites to favourable condition and to create or restore 500,000 hectares of wildlife-rich habitat outside the protected site network, focusing on priority habitats as part of a wider set of land management changes providing extensive benefits. The 25 Year Plan also proposed an adoption of 'Biodiversity Net Gain' approach to development, an approach introduced into national planning policy in 2019 and which will be mandated by the upcoming Environment Bill.

The 25 Year Plan also includes a commitment to support land management at landscape and catchment level and to support the adoption of long-term sustainable land management practices to significantly expand wildlife habitat and provide opportunities for species and ecosystem 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 may limit species' distributions indirectly though the impact of invasive species on native species along climatic gradients[27]. 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.

The West of England Nature Partnership (WENP) is a cross-sector partnership working to restore the natural environment in the West of England through embedding the value of nature in decision making across spatial planning, public health and economic development. It is the designated Local Nature Partnership (LNP) for the West of England (Bristol City, South Gloucestershire, North Somerset and Bath & North East Somerset). LNPs are a key commitment from the 2011 Government White Paper,

[24] Severn Estuary Partnership (2014): Invasive Non-Native Species detected within the Severn Estuary Area: https://severnestuarypartnership.org.uk/sep/estuary/physical-natural-environment/non-native-species/
[25] Defra (2015) The Great Britain invasive non-native species strategy
[26] HM Government (2018) A Green Future: Our 25 Year Plan to Improve the Environment. *Accessed at* https://www.gov.uk/government/publications/25-year-environment-plan. Accessed 09 June 2020.
[27] Pateman & Hodgson (2015) Biodiversity Climate change impacts report card technical paper. Available from: http://www.nerc.ac.uk/research/partnerships/lwec/products/report-cards/biodiversity/papers/source06/

The Natural Choice: Securing the Value of Nature, which recognised the need for a more joined-up approach to reverse the loss of biodiversity and degradation of ecosystems. WNEP is working to develop a regional Nature Recovery Network for the West of England, aligning with shared principles developed across the South West to ensure coherence and strengthened networks across the wider region.

Bristol Water established the Biodiversity Index approach (a ranked assessment of biodiversity gain opportunities) in 2015 with the aim of ensuring a positive impact on the natural environment following operational activity/construction works. The initiative was developed to quantify enhancement works to Natural England and to show that biodiversity improvements are being made across sites.

B.1.3 Key Issues

The key sustainability issues arising from the baseline assessment for Biodiversity, Fauna and Flora are:

- The need to protect or enhance the region's biodiversity, particularly within designated sites, protected species and habitats of principal importance.
- The need to avoid activities likely to cause irreversible damage to natural heritage.
- The need to take opportunities to improve connectivity between fragmented habitats to create functioning habitat corridors.
- The need to control the spread of Invasive Non-Native Species (INNS)
- The need to recognise the importance of allowing wildlife to adapt to climate change.
- 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 the ecosystem services.
- The need to deliver an increase in the Bristol Water biodiversity index.

B.2 Population and Human Health

B.2.1 Baseline

Population

The greater South West region is mainly rural, with an estimated population of 5.69 million in 2020[28]. Between 2016 and 2026, the population of the south west region is expected to grow by 6.8%[29]. By 2030, the population is anticipated to grow to 6.05 million[Error! Bookmark not defined.].

Considering the purpose of Drought Plans is for short-term management of drought risks over the next 5 years only, it is considered that the longer-term issues relating to population growth represent key issues for the strategic nature of the Water Resources Management Plan rather than the more tactical, shorter duration Drought Plan. The awareness of the population in the region to drought conditions and the avoidance of emergency drought measures are considered key issues with respect to the Drought Plan and needs of the current and near-future population of the area.

Water is supplied by Bristol Water to around 520,000 households. There is a resident population in the Bristol Water supply region of over 1.1 million[30].

Human Health and Deprivation

The Drought Plan has the potential to influence quality of life, including human health, well-being, amenity and community, through alterations to the operation of existing infrastructure, the operation of temporary infrastructure (e.g. pumps) and potentially any construction requirements. The Drought Plan also sets out measures to ensure that essential water supplies can be maintained to all of Bristol Water's customers, thereby protecting public health during drought conditions.

The UK is committed to delivering against the 17 Sustainable Development Goals (SDGs) as part of the United Nations 2030 Agenda for Sustainable Development. These include sustainability indicators related to health and deprivation and the UK published a Voluntary National Review in 2019[31], reporting on the UK's progress to date on delivering the SDGs. In general, the health of the population is good in the regions that the Bristol Water supply area covers.

The Office of National Statistics compiled the 'Indices of Multiple Deprivation' in 2019[32], which score and rank local authorities and smaller 'Super Output Areas' according to their performance against seven distinct categories of deprivation. It highlights that deprivation levels within the Bristol Water supply areas vary heavily. Whilst North Somerset, west Bristol and north-east Bristol are relatively affluent, there are pockets of significant deprivation, including in Weston-Super-Mare, Avonmouth and south and central Bristol. The SEA will consider whether any of the Drought Plan measures will influence deprivation, either positively or negatively.

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[28] ONS (2020): Population Projections, Local Authorities: SNPP Z1. 24th March 2020: https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationprojections/datasets/localauthoritiesinenglandz1

[29] ONS (2020) Subnational population projections for England: 2018 Based, 24th March 2020: https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationprojections/bulletins/subnationalpopulationprojectionsforengland/2018based

[30] ONS (2020): Middle Super Output Area Population Estimates. 9th September 2020: https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/middlesuperoutputareamidyearpopulationestimates

[31] HM Government (2019) Voluntary National Review of progress towards the Sustainable Development Goals. United Kingdom of Great Britain and Northern Ireland, June 2019 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/818212/UKVNR-web-accessible1.pdf (accessed 9 June 2020)

[32] MHCLG (2019) The English Indices of Deprivation 2019 (IoD2019) https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/835115/IoD2019_Statistical_Release.pdf (Accessed 9 June 2020)

Recreation and Tourism

Drought management measures have the potential to affect areas with recreation value. Impacts may arise from operational phases resulting in effects on water levels beyond those that may result from the 'natural' drought alone. Any potential construction requirements may include indirect reductions in amenity through reduced access or loss of areas of amenity value. Temporary water use restrictions (voluntary and statutory) may also adversely affect some recreational activities due to the suspension of external water uses such as watering of sports grounds.

Figure B2 shows some of the areas that may be used for recreation within the area. This includes National Trails, Areas of Outstanding Natural Beauty (AONB) (see Landscape and Visual Amenity topic), National Nature Reserves (NNRs) and Local Nature Reserves (LNRs). Bristol Water's surface water reservoirs are accessible to the public and provide a range of recreation facilities, including birdwatching, walking, sailing or fishing. Some sections of rivers and canals in the area are of particular importance with respect to navigation (e.g. the Kennet and Avon Canal) and angling (e.g. Bristol Harbour).

Public areas of open space, country parks[33], Public Rights of Way, walking routes and cycle routes are also important with respect to recreation and tourism. The National Planning Policy Framework (NPPF) states planning policies and decisions should protect and enhance public rights of way and access. All Local Authorities are required to prepare and publish Rights of Way Improvement Plans (ROWIPs). These plans explain how improvements made by local authorities to the public rights of way network will provide a better experience for a range of users, including pedestrians, cyclists, horse riders, horse and carriage drivers, people with mobility problems, and people using motorised vehicles (e.g. motorbikes).

The NPPF defines green infrastructure as 'a network of multi-functional green space, urban and rural, which is capable of delivering a wide range of environmental and quality of life benefits for local communities' (including rivers and ponds). Local planning authorities are required to plan positively for strategic networks of green infrastructure and take account of the benefits of green infrastructure in reducing the risks posed by climate change. The majority of Local Authorities have therefore developed Green Infrastructure Strategies or Studies addressing these issues. Green infrastructure will often play a large part in local recreational resources.

[33] Area designated for people to visit and enjoy recreation in a countryside environment

Bristol Water Drought Plan SEA

Legend

- Assessment Area
- AONB
- NNR
- LNR
- National Trails

FIGURE TITLE

Bristol Water Drought Plan
SEA Scoping Report:
Recreational Areas

SCALE 1:300,000

DATE December 2020

FIGURE

Figure B2

Economy and Employment

The South West had a regional GDP of £152.3 billion in 2018 and was responsible for 7.1% of the UK's GDP in 2018. The regional GDP per capita in 2018 was £24,500, below the national average (£28,800). However, it varies significantly around the region, from well below average in Cornwall and the Isles of Scilly to significantly above average in Bristol, Gloucestershire and Wiltshire[34]. In Q3 of 2020, The unemployment rate in the South West was 4.1%. This was the lowest unemployment level in England (level with the South East) and the second lowest in the UK. The unemployment rate in the South West has increased during 2020, but at a much lower rate than the UK-wide figure[35]. Unemployment within the region varies within the region, being highest in Plymouth (4.7%) and lowest in Cotswold (2.1%)[36].

At 23,829 square kilometres, the South West region covers nearly ten per cent of the UK's land mass with almost three quarters of its entire area (17,600km^2) devoted to agriculture. There are almost 26,000 commercial 'agricultural holdings' of all shapes and sizes ranging from small family farms to highly sophisticated, multiple thousand-acre estates and agri-enterprises[37]. Some businesses that rely on water supply have the potential to be affected by the Drought Plan through a Temporary Use Ban or a Drought Order to ban prescribed non-essential water uses. However, the Drought Plan also sets out measures to maintain essential water supplies to all businesses during drought conditions to ensure most businesses can continue to operate without any disruption.

B.2.2 Future Baseline

The west of England is a rapidly growing area and by 2045 the population Bristol Water supply is predicted to have risen from 1.21 million to approximately 1.48 million people. Nonetheless, the projected demand for water is not forecast to grow by the same extent, thanks to continuing action to reduce leakage, increasing rates of water metering (which helps reduce demand for water) and improvements in household water efficiency. Based on work undertaken for the WRMP19 it has been identified that total water demand will rise only gradually by 4.4 Ml/d across the 25 year planning period from 281.4 Ml/d at 2017/18 to 285.8 Ml/d at 2044/45.

Access to the recreational resources, green spaces and the historic environment will have greater importance in future planning[38]. For example, the National Ecosystem Assessment and the Marmot Review, *Fair Society, Healthy Lives*, demonstrate the positive impact that nature has on mental and physical health and as a result the Government intends to promote Green Infrastructure Partnerships[39], with civil society to support the development of green infrastructure in England. Improvements to the quality of the water environment and certain potential climate change impacts will present opportunities for an expanding tourist industry in the region[40].

B.2.3 Key Issues

- The need to ensure water supplies remain affordable especially for deprived or vulnerable communities, reflecting the importance of water for health and wellbeing.
- The need to ensure continued improvements in levels of health across the region, particularly in urban areas and deprived areas.

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[34] European Commission (2018) Southwest of England, regional profile. https://ec.europa.eu/growth/tools-databases/regional-innovation-monitor/base-profile/south-west-england

[35] ONS (2020):)Labour market in the regions of the UK: November 2020. https://www.ons.gov.uk/employmentandlabourmarket/peopleinwork/employmentandemployeetypes/bulletins/regionallabourmarket/november2020

[36]

[37] Defra (2018) Agricultural facts – commercial holdings at June 2018 (unless stated): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/866816/regionalstatistics_southwest_20feb20.pdf

[38] Defra (2011) The Natural Choice: securing the value of nature, The Natural Environment White Paper

[39] Green infrastructure is a term used to refer to the living network of green spaces, water and other environmental features in both urban and rural areas.

[40] Defra (2012) The UK Climate Change Risk Assessment 2012 Evidence Report.

- The need to ensure public awareness of drought conditions and importance of maintaining resilient, reliable public water supplies without the need for emergency drought measures.
- The need to ensure water quantity and quality is maintained for a range of uses including tourism, recreation, navigation and other uses such as agriculture.
- The need to ensure a balance between different aspects of the built and natural environment that will help to provide opportunities for local residents and tourists for access to green infrastructure and the natural and historic environment, as well as protecting and enhancing recreational resources.
- The need to accommodate an increasing population and local housing growth through provision of essential services including water supply.
- 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

Water Use

Bristol Water supplies nearly 264 million litres of drinking water each day from its 16 water treatment works through over 6,700 kilometres of water mains to customers' taps. Between 2015 and 2040, Bristol Water proposes to reduce water leakage from 18% of the total water supplied to the network to less than 10%. Bristol Water is actively pursuing measures to encourage its customers to reduce their water use and use water wisely, particularly in dry conditions. Currently, almost 60% of households are metered, and Bristol Water plans to reach a metered household rate of 75% by 2025. These measures are particularly relevant to the Drought Plan when water efficiency activities help to safeguard essential water supplies. Average daily water use per capita for Bristol Water customers was 144.6 litres/head/day (l/h/d) for the period 2019-20. It is expected that by 2040, average daily water use will decrease to 130 litres per person.

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.

Waste going to landfill has more than halved over the period 2004/5 to 2014/15 (19,822 thousand tonnes to 6,361 thousand tonnes); household recycling rates in England are currently at 44.7% (2018/19), down from 45.2% in 2017[41]; waste generated by commerce and industry reached 37.2 million tonnes in 2018, a 3% increased on the year before and a 16% increase since 2010[42]. In line with the widely adopted 'waste hierarchy', best practice for waste management is to reduce, re-use, recycle and recover, and only then should disposal (or storage) in landfill be considered.

Data on waste arisings are 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 its treatment facilities. Waste streams include commercial and industrial waste (statistics include waste arisings from the power and utilities sector, which includes water supply and sewage removal), and also hazardous wastes.

Currently, 98% of the waste disposed by Bristol Water complies with Environmental Permitting Regulations; a 99% compliance rate is expected by 2040. Bristol Water is working towards a target of 100%.

Drought management measures which require infrastructure may result in the use of raw materials and the production of waste. The operation of Drought Plan measures may result in additional chemical use due to use of poorer quality raw water and the consequent production of waste through water treatment processes.

B.3.2 Future Baseline

The Environment Agency recently published the national framework for water resources[43] which included ambitious targets to reduce average per capita consumption (PCC) to 110 litres per person per day (l/p/d) by 2050. In its 2019 WRMP, Bristol Water also aims to reduce per capita consumption

[41] Defra (2019) Statistics on waste managed by local authorities in England in 2018/19 (28th November 2019). https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/918853/201819_Stats_Notice_FINAL_accessible.pdf
[42] Defra (2020) ENV23 – UK statistics on waste. 19 March 2020: https://www.gov.uk/government/statistical-data-sets/env23-uk-waste-data-and-management
[43] Environment Agency (2020) Meeting our future water needs: a national framework for water resources, March 2020.

to 110 litres per person per day, and it is anticipated that by 2045, average water usage will reduce from 141.6 litres per person per day to 129.4 litres per person per day. The Government's national aspiration is to reduce water usage to an average of 130l/h/day by 2030. Bristol Water aims to achieve such a reduction while increasing household metering to 87% by 2045. Bristol Water plan to reduce leakage by 15% by 2025 as detailed in the WRMP19. Bristol Water's aim is to manage water resources more efficiently in order to improve the reliability of water provision to its customers.

There is the potential for increase in operational waste from the water sector as regional population increases and standards of treatment are increased through regulatory requirements.

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 lifecycle of products in order to maximise the value of our resources during their lifetime. The Waste Strategy for England[44], 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 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.
- The need to continue to encourage more efficient water use by consumers.

[44] HM Government (2018) Our waste, our resources: a strategy for England

B.4 Water

B.4.1 Baseline

In the context of the WFD, the water environment includes rivers, lakes, estuaries, groundwater and coastal waters out to one nautical mile. The WFD brings together the planning processes of a range of other water-related European Directives. These Directives establish protected areas to manage water, nutrients, chemicals, economically significant species, and wildlife, and have been brought in line with the planning timescales of the WFD.

Surface Waters: Rivers and Canals

The area under consideration lies within the Severn River Basin District and the South West River Basin District.

Bristol Water is a water only company (WoC) that provides water supplies to 1.19 million people and all the associated businesses in an area of approximately 2,400 square kilometres centred on Bristol and the towns and villages within a 20-mile radius of the city. The water supply area stretches from Thornbury and Tetbury in the north, to Street and Glastonbury in the south, and from Weston-Super-Mare in the west to Frome in the east. Bristol Water relies on 68 water sources, including reservoirs, rivers, springs, wells and boreholes. Of the company's 14 raw water reservoirs, the largest is Chew Valley Reservoir, holding up to 20,460 million litres and providing around 40% of the water required to meet demand.

85% of the water supply managed by Bristol Water comprises surface waters while 15% comes from groundwater. A major abstraction is taken from the Gloucester and Sharpness Canal under agreement with the Canal & River Trust which is supplied by the Rivers Severn, Cam and Frome. This single abstraction provides approximately 50% of the water available to Bristol Water. Abstraction from the River Severn is controlled by statutory and abstraction licence conditions. In dry periods, use of water supplies from the River Severn is increased by Bristol Water to conserve water stored in reservoirs.

Surface water features and the WFD ecological status of river catchments in the study area are shown in **Figure B3**.

Surface Waters: Lakes and Reservoirs

There are three surface water impounding reservoirs (Cheddar, Blagdon, Chew Valley) collecting water from the Mendip Hills. Chew Valley Reservoir is the largest and can store 20,460 million litres. There are also other smaller raw water reservoirs within the supply system.

Groundwater

Bristol Water operates 16 small groundwater sources such as springs, wells and boreholes which are used conjunctively and account for around 15% of the water available.

Under the WFD, there are two separate classifications for groundwater bodies: chemical status and quantitative status. A groundwater body will be classified as having poor quantitative status in the following circumstances: where low groundwater levels are responsible for an adverse impact on rivers and wetlands normally reliant on groundwater; where abstraction of groundwater has led to saline intrusion; where it is possible that the amount of groundwater abstracted will not be replaced each year by rainfall. 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.

The groundwater quantitative status for the study area is shown in **Figure B4**.

Source Protection Zones (SPZ) provide additional protection to safeguard drinking water quality. This is achieved through constraining the proximity of an activity that may impact upon drinking water

abstraction. They are defined around large and public potable groundwater abstraction sites and take account of the groundwater travel time to an abstraction.

Estuaries

There are four WFD estuarine waterbodies associated with the assessment area: Bristol Avon, Severn Upper, Severn Middle and Severn Upper, with a combined area of over 50,000ha. They are all considered to have an overall status of 'moderate' and an ecological status of 'moderate'. The Severn Middle also has a chemical status of Fail, whilst the other three have a chemical status of Good.

Key pressures

The key pressures in the catchment, particularly affecting ecological and biological status are:

- Discharges from sewage treatment works releasing ammonia, phosphates, and other pollutants into the water environment. The major discharges in the catchment are from sewage treatment works and these can lead to signs of nutrient enrichment at times of low flows, for example in the River Axe and North Somerset Streams[45];
- Intermittent urban discharges (pollution incidents);
- Diffuse runoff from agricultural land into water courses (increasing nitrates and to a lesser extent pesticides);
- Impact of historical release of nitrates into groundwater (nitrates continue to accumulate in water many years after the sources of nitrates are removed); and
- Surface water abstraction (public water supply and other abstractions impacting on low flows in the catchment).

Water Framework Directive Classification

Since 2000, the health of water bodies has been classified using a status based approached according to quality elements defined within Annex V of the WFD.

Surface water status is awarded on a 5 point scale (High, Good, Moderate, Poor, Bad), as the lowest of the ecological status and chemical status of the waterbody (for a water body to be in overall 'good' status, both ecological and chemical status must be at least 'good'). Ecological status classification considers the condition of biological quality elements (e.g. aquatic invertebrates, plants and fish), hydromorphological quality elements, (the morphology of the habitat available), and general chemical and physiochemical quality elements (concentrations of supporting physio-chemical elements; and concentrations of specific pollutants).

Within the two management catchments within which the Bristol Water SEA area falls into (Avon Bristol Somerset North Streams and Somerset South and West), of a total of 13 (12%) and 11 (10%) are classified as achieving 'good' under 2015 (cycle 2) status respectively. No surface water waterbodies within the two operational catchments achieve a 'high' status.

However, by 2021 it is predicted that further waterbodies will achieve good status. The groundwater body status underlying the area of interest is generally good, except for the Bristol Triassic aquifer which is of poor chemical status despite having a good quantitative status. The WFD summary is presented in **Table B1**.

The WFD ecological classification for river catchments in the study area is shown in **Figure B3**.

[45] Environment Agency (2015). River Basin Management Plan Severn River Basin District

Table B1 Key Status Statistics for Surface and Groundwater Bodies in the Bristol Avon and North Somerset Streams Management Catchment and South and West Somerset Management Catchment

	South and West Somerset Management Catchment		Avon Bristol and Somerset North Streams		
River and Lake Water Bodies	**2015**	**2021 (Predicted)**	**2015**	**2021 (Predicted)**	**Improvement Measures**
% at good ecological status or good potential	11%	27%	12%	41%	Nutrient treatment from phosphates from waste water treatment (Avon Bristol and Somerset North Streams only)
% at good or high biological status	32%	44%	23%	21%	
% at good chemical status	96%	98%	99%	96%	
% at good status overall	11%	27%	13%	19%	
Groundwater Bodies	**2015**			**2021**	**Improvement Measures**
Wells	good			good	N/A
Bristol Triassic	poor			poor	N/A
Mendips	good			good	N/A

Flood Risk

Flooding can result from rivers and the sea, directly from rainfall on the ground surface and rising groundwater, overwhelmed sewers and drainage systems, and from reservoirs, canals and lakes and other artificial sources. The Environment Agency's Flood Risk Maps available on its website show what is at risk of flooding, including people, economic activity and natural and historic environment. There are two defined high flood risk areas – coastal areas along Bridgwater Bay (including areas near Cleveland) and the Mendip Hills area. These are areas where there is a significant risk of flooding from local sources, such as surface water, groundwater and ordinary watercourses, combined with a significant population at risk of the effects of flooding (Flood Zone 3). Approximately 156,000 people (14% of the study area's population) live along the coast[46], and flood risk is mitigated by flood defences where urban areas are present (i.e. Burnham-on-Sea, Clevedon, Portishead and Weston-Super-Mare).

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.

[46] The Centre for Towns Data Tool: https://www.centrefortowns.org/datatool

Bristol Water Drought Plan SEA

Legend

- Assessment Area
- Lakes
- Rivers
- Transitional Waters

Ecological Classification

- High
- Good
- Moderate
- Poor
- Bad

0 2.5 5 10 15 20 Km

N W E S

FIGURE TITLE

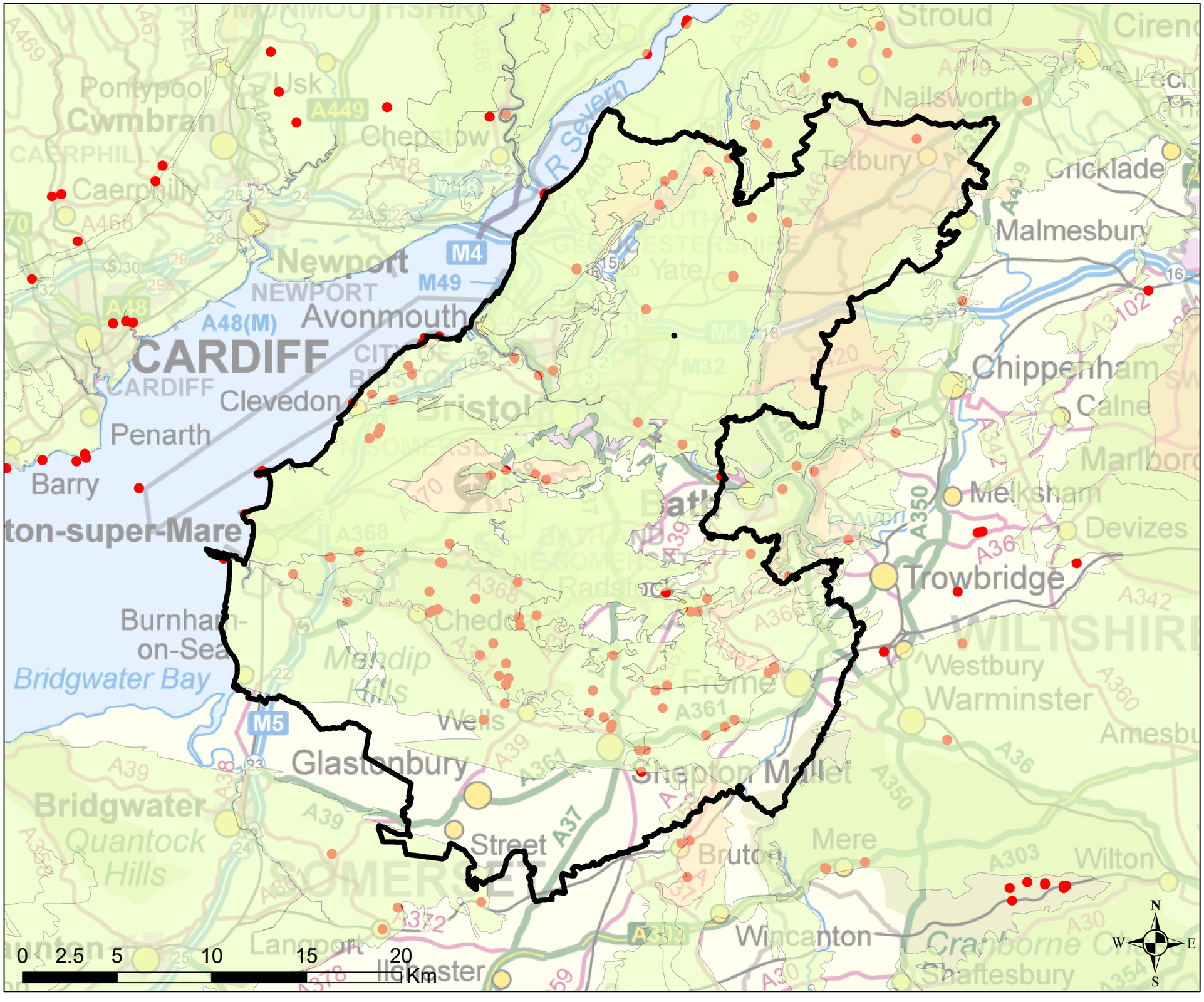
Bristol Water Drought Plan
SEA Scoping Report:
WFD Surface Waters

SCALE 1:300,000

DATE December 2020

FIGURE

Figure B3



Bristol Water Drought Plan SEA

Legend

- Assessment Area

Groundwater Quantitative Status

- Good
- Poor
- Geological Conservation Review Sites

FIGURE TITLE: Bristol Water Drought Plan SEA Scoping Report: Groundwater and Geological Conservation

SCALE: 1:300,000

DATE: December 2020

FIGURE: Figure B4

B.4.3 Future Baseline

The recently published national framework for water resources[47] 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 England. Five regional groups have been set up each tasked with pulling together a regional plan to build resilience to a range of uncertainties and future scenarios. These include water companies and other water users. The south west region (termed in the west country in the national framework) increased consumption, driven by population growth, is the largest driver of future water need by 2050. Increasing public water supply resilience to extreme droughts also drives a significant component of additional water needed, with increased protection for the environment also driving a notable component of the future water need. The West Country Water Resources Group (comprising Bristol Water, South West Water and Wessex Water) has a priority to make the region more efficient by achieving the ambitious reductions in water use and leakage; and to explore the potential to transfer water to other regions – particularly the neighbouring south east.

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, it was acknowledged that in some cases the achievement of good status may be delayed until 2021 or 2027. 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 UK Climate Change Risk Assessment (CCRA) 2017 Evidence Report[48] 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:

- Increasing pressure on the UK's water resources due to changes in hydrological conditions and regulatory requirements to maintain good ecological status.
- Increases in water demand for irrigation of crops.
- Lower summer rivers flows across the UK due to warming and drying conditions.
- An increase in precipitation in winter months due to a combination of greater depths and more frequent heavy rainfall events - suggesting larger volumes of runoff with potential negative impacts on flood risk and sewer overflows in urban environments.
- Flash-flooding associated releases from combined sewer overflows (CSO) could in turn increase associated illnesses at the coast due to the varying occurrence of microbial pathogens in the marine environment.

B.4.4 Key Issues

- The need to further improve the quality of the region's river, estuarine and coastal waters taking into account WFD objectives and designated sites objectives (i.e. assessment against Common Standards Monitoring Guidance, where relevant).
- The need to maintain the quantity and quality of groundwater resources taking into account WFD objectives.
- The need to improve the resilience, flexibility and sustainability of water resources in the region, particularly in light of potential climate change impacts on surface waters and groundwaters.
- The need to ensure sustainable abstraction to protect the water environment and meet society's needs for a resilient water supply.
- The need to ensure that people understand the value of water.

[47] Environment Agency (2020) Meeting our future water needs: a national framework for water resources. March 2020.
[48] Defra (2016) The UK Climate Change Risk Assessment 2017 Evidence Report

B.5 Soil, Geology and Land Use

B.5.1 Baseline

Geology

Geological sites may be sensitive to changes in water quality, water levels (for example waterlogged deposits), pollution and land use practices. The study area is geologically diverse and includes a number of major aquifers including major chalk aquifers and interbedded sandstones and siltstones.

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[49]. GCRs are also designated as SSSIs. Several geological SSSIs are found within the area, however some are not directly designated because of geology, although the geological variation does impact on the flora present. The main reason for a geological citation for an SSSI is related to disused quarries and geological important sites such as gravels and cliffs. There are 88 GCRs within the study area (**Figure B4**).

Soils

The Soil Map of England and Wales[50] identifies dominant soil subgroups. In terms of agricultural land quality, planning policy seeks to protect best and most versatile agricultural land (defined as land in Grades 1, 2 and 3a of the Agricultural Land Classification). The majority of rural land in the study area is farmed, and it is noted that agricultural practices have a major influence on soil quality. Good soil structure is beneficial to water retention and crop yield. It can be seen from **Figure B5** that the majority of agricultural land is classified as Grade 3. Soil quality and structure is affected by changes in land use, groundwater levels and farming practices. Soil quality can influence run-off rates and therefore flooding and water quality.

B.5.2 Future Baseline

The Government's 25-year Environment Plan states that England's soils must be managed sustainably, and degradation threats tackled successfully by 2030[51]. This will improve the quality of England's soils and safeguard their ability to provide essential services for future generations.

The Water White Paper described the Government's intentions to take forward a catchment-based approach to water quality and diffuse pollution and work towards Common Agricultural Policy reforms that will promote the farming industry's role as custodian of the natural environment[52]. The Water White Paper also identified that the strategic policy statement for Ofwat and revised social and environmental guidance would give a strong steer on Government support for approaches that offer good value for customers and the potential to prevent and manage future risks to drinking water quality. These policy objectives were reflected in development of catchment partnerships across England (including in the SEA assessment area) to implement the catchment-based approach.

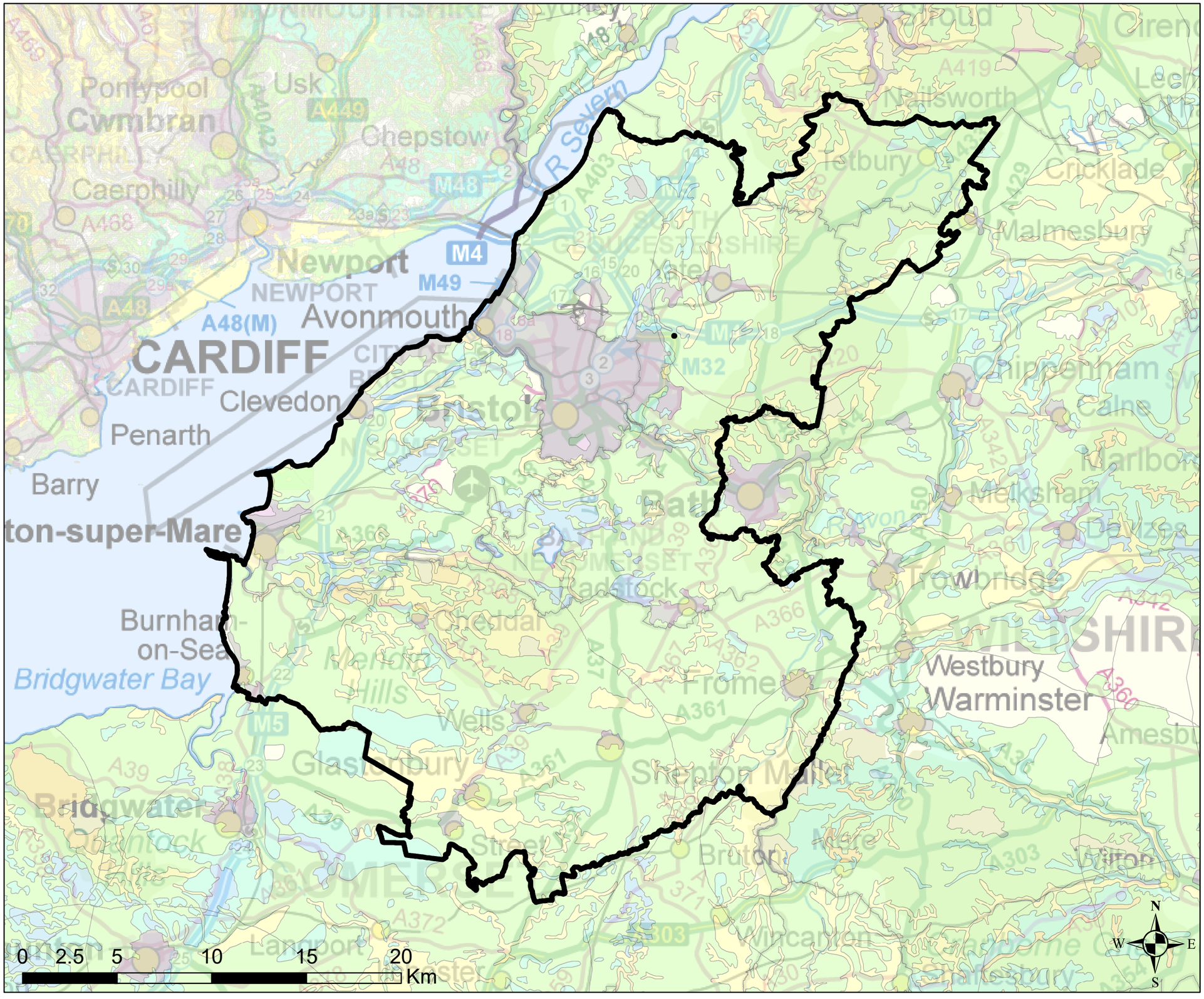
One of the core planning principles of the National Policy Planning Framework (NPPF) is to encourage the effective use of land by reusing land that has been previously developed (brownfield land), provided that it is not of high environmental value. The NPPF also places great importance with respect 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

[49] http://jncc.defra.gov.uk/page-2947
[50] Produced by the Soil Survey of England and Wales for MAFF
[51] HM Government (2019): A Green Future: Our 25 Year Plan to Improve the Environment. 16 May 2019: https://www.gov.uk/government/publications/25-year-environment-plan
[52] Defra (2011) Water for Life - Water White Paper

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.

B.5.3 Key Issues

- 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 Drought Plan is unlikely to affect land-use as no permanent development will be required to meet the objectives of the plan.



RICARDO

BRISTOL WATER

Bristol Water Drought Plan SEA

Legend

Assessment Area

Agricultural Land Classification

- Grade 1
- Grade 2
- Grade 3
- Grade 4
- Grade 5
- Non Agricultural
- Urban

FIGURE TITLE: Bristol Water Drought Plan SEA Scoping Report: Agricultural Land Classification

SCALE: 1:300,000

DATE: December 2020

FIGURE: Figure B5

B.7 Air and Climate

B.7.1 Baseline

Local Air Quality

Drought management measures may involve the operation of abstraction and treatment facilities at a greater level of intensity and/or in locations where such operations do not normally take place, with the potential for negative effects, although generally only in the short term.

The local air quality baseline situation can be best described through reference to the local authorities that have declared Air Quality Management Areas (AQMA). A local authority declares an AQMA when UK National air quality objectives are unlikely to be met. The local authorities in the area which have declared an AQMA within their boundaries are illustrated in **Figure B6**. There are 5 AQMAs in total within the study area. The majority of the AQMAs have been declared because of emissions from road transport.

The most recent Clean Air Strategy contains a set of objectives focused on the reduction of traffic emission impacts[53].

The Air Pollution Information System (www.apis.ac.uk) will be consulted during the assessment process to help understand the baseline risks of air pollution on habitats/sensitive and or designated sites.

In April 2015, the Supreme Court ruled that the UK Government must redraft the national nitrogen dioxide (NO_2) air quality action plan, as well as 16 regional action plans, including Greater London, with the aim of ensuring that these areas reach compliance with legal NO_2 limits as soon as possible. In response, the Government published an updated plan in 2017 along with individual zone plans for the 37 zones identified as having air quality issues with NO_2, including the South West[54]. It is expected that the South West region will be compliant by 2022.

Greenhouse Gases and Climate Change

The predominant greenhouse gas of interest is carbon dioxide (CO_2). Bristol Water is a large user of energy due to the energy needed to treat and pump water. In 2019/20, 19kgCO_2e per customer were produced by Bristol Water. This represents a 19% year on year reduction, and a fall since 2015 of 46%[55]. Bristol Water's emissions figure per megalitre of water supplied was 375kg/CO_2e/Ml in 2016 and had fallen to 275kgCO_2e/Ml by 2020. In the last 5 years, carbon emissions from Bristol Water have fallen 51%.

Forecast future climate change is likely to influence processes within the hydrological cycle such as runoff and evapotranspiration. The impact of climate change on the water environment and water-related infrastructure is summarised in **Table B2.**

Table B2 Potential impact of climate change on the water environment and water-related infrastructure

Sector	*Impact*
Water Resources (i). water supply	*Reduction in yields, either in total or at certain times of the year.* *Increased evaporation losses from surface water stores* *Increased sediment and pollution runoff into watercourses.* *Increased risk of algal blooms and pollution in reservoirs.* *Increase in demands in summer months leading to increase in average and peak requirements.*

[53] Defra (2019) Clean Air Strategy 2019. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/770715/clean-air-strategy-2019.pdf
[54] https://uk-air.defra.gov.uk/assets/documents/no2ten/2017-zone-plans/AQplans_UK0030.pdf (Accessed 9 June 2020)
[55] Bristol Water Annual Performance Report 2020: https://www.bristolwater.co.uk/wp-content/uploads/2020/07/BW_APR-2020_ART.pdf

Sector	*Impact*
ii. water demand	*Increased pressure on treatment and distribution system.* *Increased requirements for agriculture.*
Flood management	*Increased riverine storm occurrence and flood risk.* *Improvements and higher specifications required for flood defences, urban drainage and rainwater disposal.*
Water quality management	*Lowered water quality in lowland rivers, with implications for instream ecosystems and water abstractions.* *Altered potential for polluting incidents.* *Increased potential for combined sewer overflows due to an increase in extreme storm occurrences.*
Navigation	*Lower summer flows leading to reduced navigation opportunities in rivers and canals.*
Aquatic ecosystems	*Altered habitat potential, with species at their environmental margins most affected.*
Water-based recreation	*Impacts through changes in river flows and water quality.*

Drought measures could influence CO_2 emissions through additional pumping and treatment requirements. The Drought Plan is a tactical response plan that sets out to ensure the maintenance of essential water supplies during times of drought, which may become more prevalent and intense due to the effects of climate change. The Drought Plan itself functions as a form of adaptation to some of the effects of climate change.

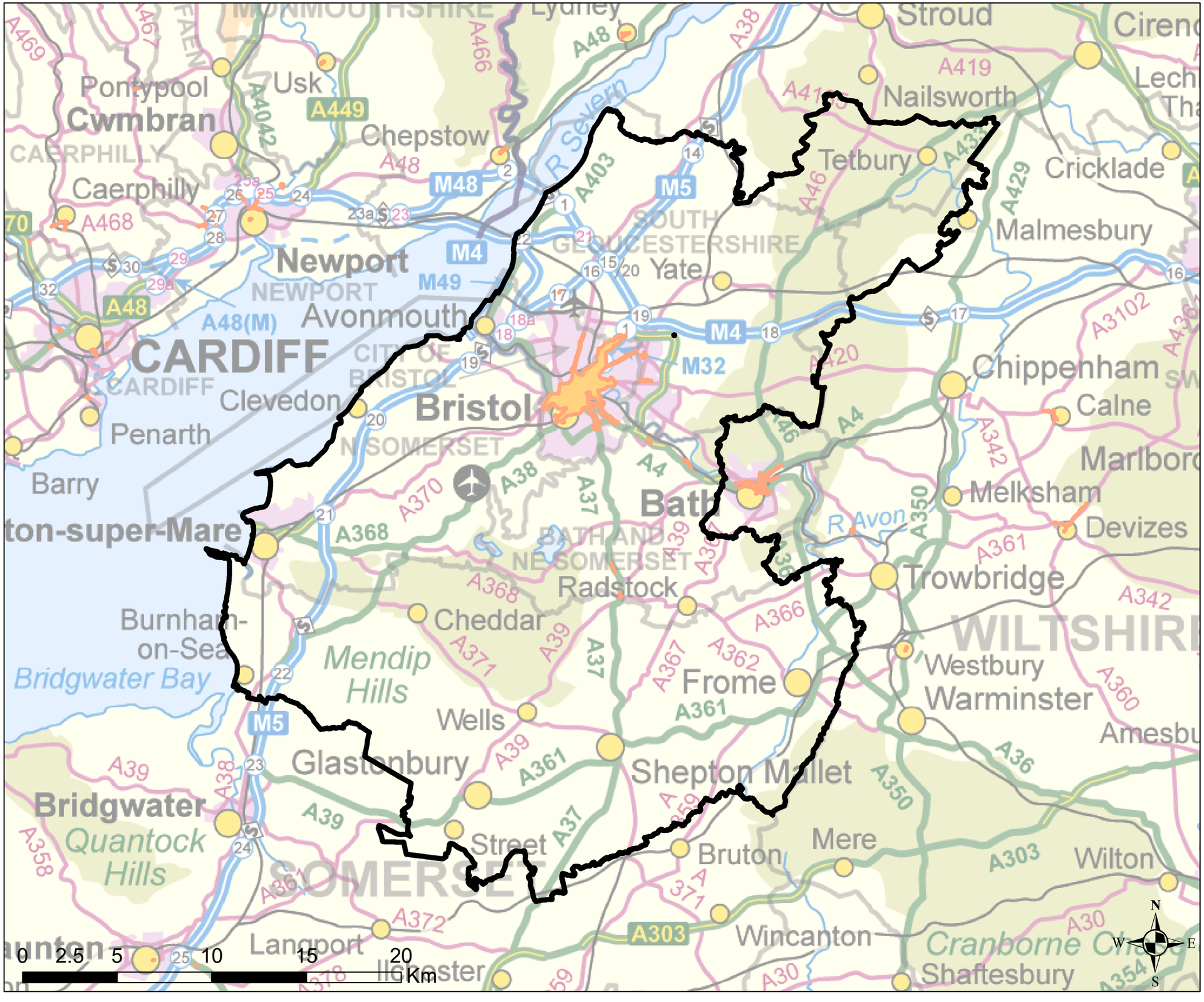
Adaptation to Climate Change

The UK Climate Change Risk Assessment (CCRA) 2017 Evidence Report[56] 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. The assessment identified six key areas of inter-related climate change risks for the UK, including:

:

- Flooding and coastal change risks to communities, businesses and infrastructure.
- Risks to health, well-being and productivity from high temperatures.
- Risks of shortages to the public water supply, and for agriculture, energy generation and industry.
- Risks to natural capital, including terrestrial, coastal, marine and freshwater ecosystems, soils and biodiversity.
- Risks to domestic and international food production and trade.
- New and emerging pests and diseases, and invasive non-native species, affecting people, plans and animals.

[56] Defra (2016) The UK Climate Change Risk Assessment 2017 Evidence Report



RICARDO

BRISTOL WATER

Bristol Water Drought Plan SEA

Legend

Assessment Area

AQMA

FIGURE TITLE

Bristol Water Drought Plan
SEA Scoping Report:
Air Quality Management Areas

SCALE	DATE
1:300,000	December 2020

FIGURE

Figure B6

B.7.2 Future Baseline

Government and international targets (including the 2016 Paris Agreement) indicate significant cuts in greenhouse gas emissions will take place by certain years (2017, 2022, 2027 and 2032). The UK met its carbon budget targets to 2017 and is currently projected to meet its first three legislated carbon budget targets (until 2022), but not to meet the targets for 2027[57].

The 2018 UK Climate Projections (UKCP18) estimate that summers in central England are likely, to be 0°C to 5.8°C warmer and 57% drier to 9% wetter[58]. These changes could affect the frequency and severity of drought events.

B.7.3 Key Issues

- The need to reduce air pollutant and greenhouse emissions and limit air emissions to comply with air quality standards.
- The need to reduce greenhouse gas emissions (industrial processes and transport).
- The need to adapt to the impacts of climate change, for example through sustainable water resource management, water use efficiencies, specific aspects of natural ecosystems (e.g. connectivity) as well as accommodating potential opportunities afforded by climate change.

[57] DECC (2019) Updated energy and emissions projections 2018 https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/501292/eepReport2015_160205.pdf

[58] Defra, BEIS, the Met Office and the Environment Agency (2018) – UKCP18 Climate Change Over Land: https://www.metoffice.gov.uk/binaries/content/assets/metofficegovuk/pdf/research/ukcp/ukcp18-infographic-headline-findings-land.pdf

B.9 Archaeology and Cultural Heritage

B.9.1 Baseline

Implementation of drought management measures 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.

Heritage designations for the assessment area are shown in **Figure B7**.

Nationally important archaeological sites are statutorily protected as Scheduled Monuments (SMs)[59]. There are currently around 20,000 entries in the Schedule for the UK[60]. As of 2018. within the southwest of England, there were 4 World Heritage Sites, 6,981 SMs, about 90,000 listed buildings and over 300 Registered Parks and Gardens. There are approximately 470 SMs located within the assessment area.

Historic England collects data on buildings at risk. There were 5,097 designated assets on the Heritage at Risk (HAR) register in 2020. 181 have been removed from the Register since 2014, and 216 added[61]. Heritage assets such as Scheduled Monuments can be at risk from water abstraction or dewatering (previously 1.71% nationally). However, other assets, such as those composed of organic material and preserved in waterlogged or anaerobic conditions, are proportionately more at risk (e.g. palaeoenvironmental deposits).

Conservation Areas are usually designated by the local planning authority. They 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.

In relation to unknown assets, waterlogged conditions preserve waterlogged archaeology, such as wooden artefacts and structures such as trackways. Remains may be rain-fed or groundwater fed. If the latter, then clearly abstraction levels can be a critical factor in maintaining conditions in which preservation of the remains is viable. In addition, there are waterlogged deposits that are specifically associated with chalk, such as springs and their intimately associated wetlands which again can contain important archaeological information, especially palaeo-environmental evidence. Such water-dependent heritage assets will be considered when assessing potential Drought Plan measures.

B.9.2 Future Baseline

The NPPF was introduced in 2012 and aimed to make the planning system less complex and more accessible and changed the emphasis on planning to have a presumption in favour of development. However, core planning principles include those aiming to protect heritage assets, including "*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 this and future generations*"[62].

Recent and ongoing national economic difficulties may have a negative 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

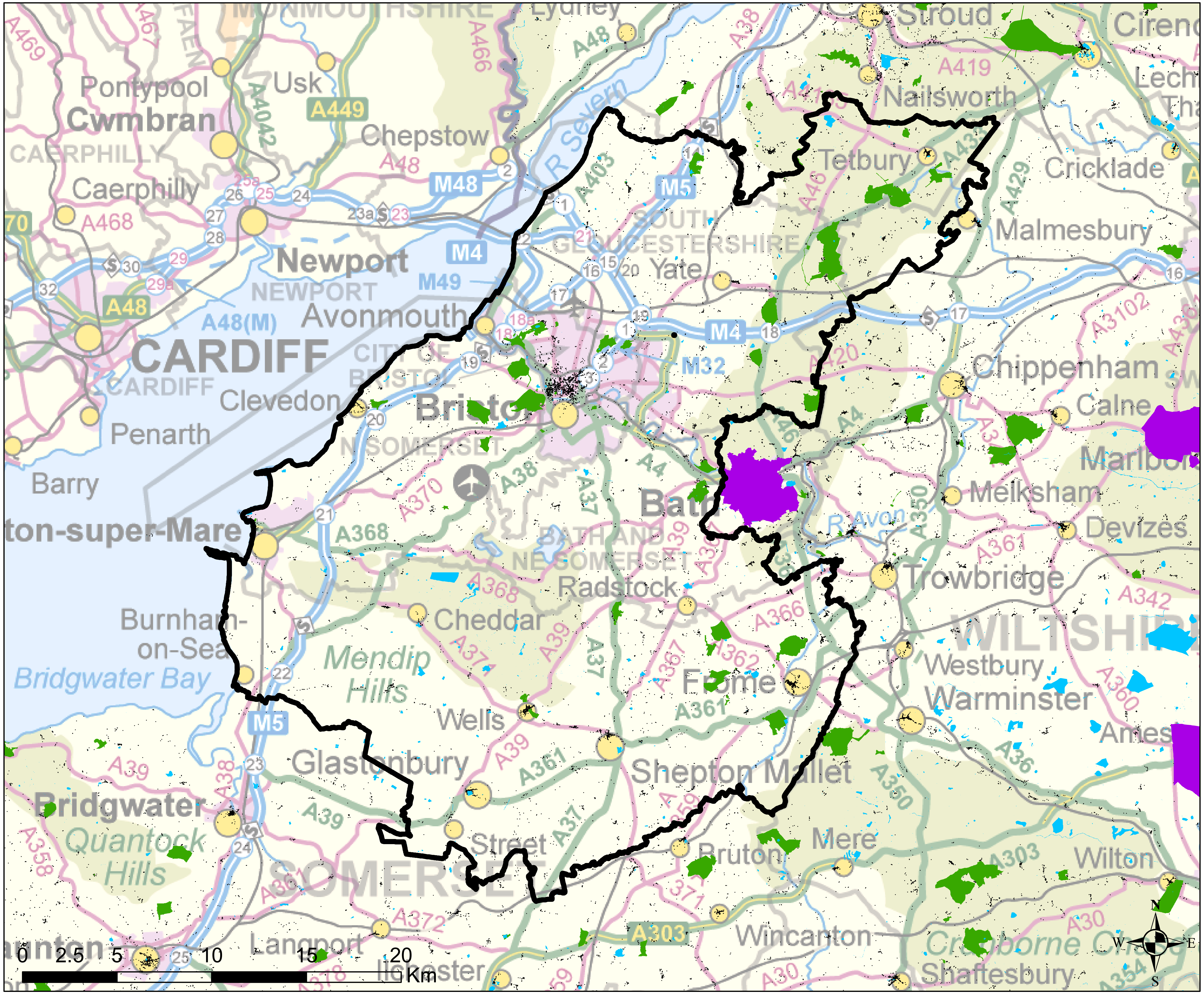
[59] Nationally important archaeological sites designated under the Ancient Monuments and Archaeological Areas Act, 1979, www.culture.gov.uk/historic_environment/scheduled_ancient_monuments/
[60] English Heritage (2015) Heritage counts 2015
[61] Historic England (2020) Heritage at Risk: Latest Findings: https://historicengland.org.uk/advice/heritage-at-risk/findings/
[62] CLG (2012) National Planning Policy Framework, Communities and Local Government. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/6077/2116950.pdf

change. However, many more historic assets are potentially at risk from the direct impacts of future climate change[63].

B.9.3 Key Issues

- The need to conserve or enhance sites of archaeological importance and cultural heritage interest, and their setting, particularly those which are sensitive to the water environment.
- The need to protect water-dependent heritage sites during drought conditions.

[63] English Heritage (2010) Climate Change and the Historic Environment



Bristol Water Drought Plan SEA

Legend

- Assessment Area
- World Heritage Sites
- Scheduled Monuments
- Registered Parks And Gardens
- Listed Buildings

FIGURE TITLE: Bristol Water Drought Plan SEA Scoping Report: Cultural Heritage Designations

SCALE	DATE
1:300,000	December 2020

FIGURE: Figure B7

B.10 Landscape and Visual Amenity

B.10.1 Baseline

The landscape character network[64] defines landscape character as 'a distinct, recognisable and consistent pattern of elements in the landscape that makes one landscape different from another, rather than better or worse'. Some landscapes are special because they have a particular amenity value, such as those designated as Areas of Outstanding Natural Beauty (AONB). Others may have an intrinsic value as good examples or be the only remaining examples of a particular landscape type. Some landscapes are more sensitive to development whereas others have a greater capacity to accommodate development. Assessments of landscape character and landscape sensitivity enable decisions to be made about the most suitable location of development to minimise impacts on landscapes.

Implementation of drought plan measures has the potential to influence landscape and visual amenity, for example, effects on water levels in rivers beyond those occurring naturally as a result of the drought alone. AONBs and Natural England National Character Areas (NCAs) are shown on **Figure B8** for the study area.

Nationally Designated Sites

AONBs are defined as ‘precious landscapes whose distinctive character and natural beauty are so outstanding that it is in the nation's interest to safeguard them’[65]. They are designated under the National Parks and Access to the Countryside Act, 1949, strengthened by the Countryside and Rights of Way Act, 2000. The primary purpose of the AONB is ‘to conserve and enhance the natural beauty of the landscape.’ There are 3 AONBs wholly or partially within the study area (Cotswolds AONB; Mendip Hills AONB; and Cranborne Chase and West Wiltshire Downs AONB). It is only the Mendip Hills AONB where measures in the Drought Plan have the potential for effects

The main characteristics of Green Belt is their openness and their permanence. The main aim of Green Belt policy is to prevent urban sprawl by keeping land permanently open. The Green Belt therefore aims to check the unrestricted sprawl of large built-up areas; prevent neighbouring towns merging into one another; assist in safeguarding the countryside from encroachment; preserve the setting and special character of historic towns; and assist in urban regeneration nu encouraging the recycling of derelict and other urban land.

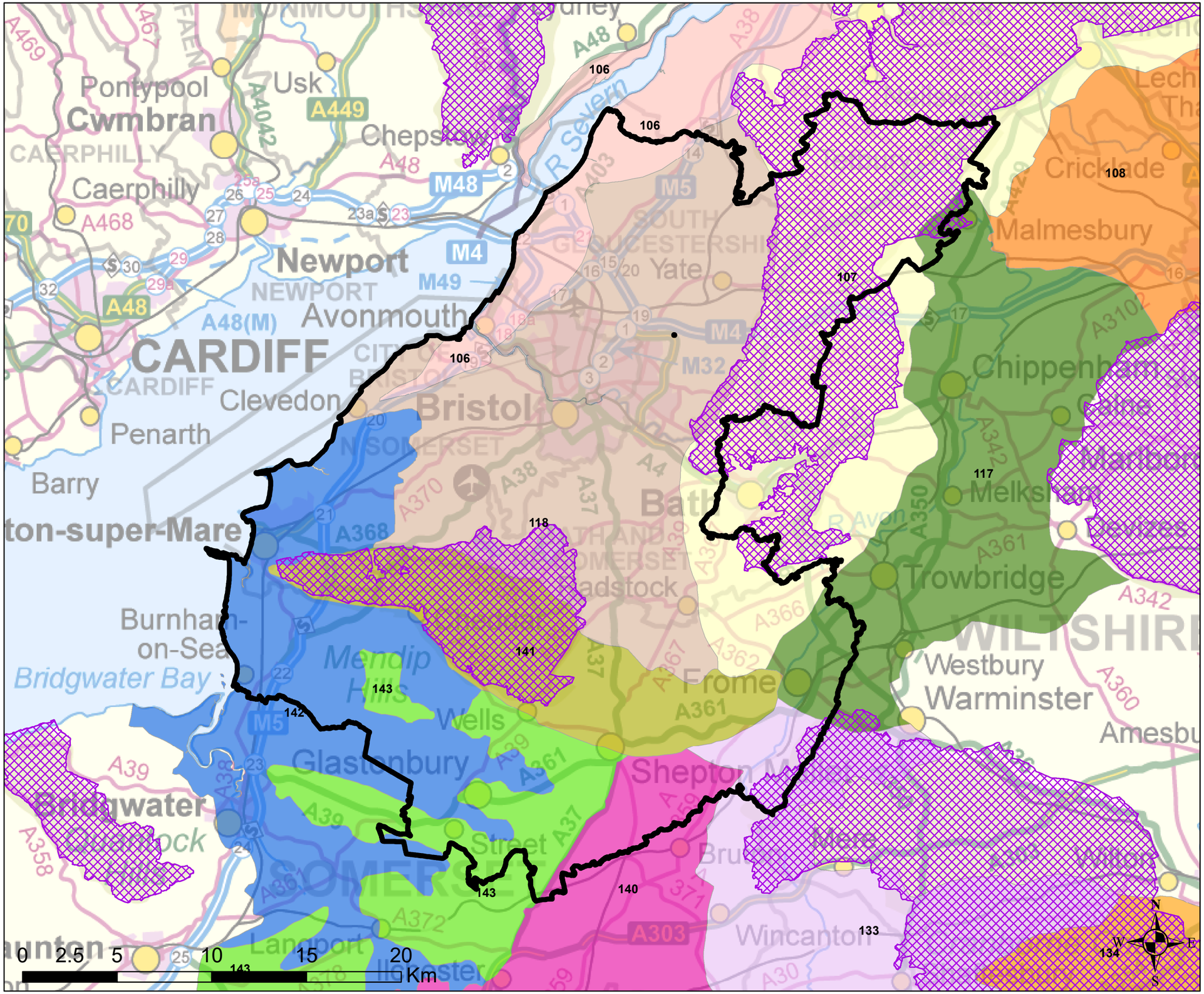
Natural England National Character Areas and Heritage Coasts

Natural England National Character Areas also take account of landscape (also referred to in the Biodiversity, Flora and Fauna topic). These are shown geographically in **Figure B8**. There are no Heritage Coast areas in the Bristol Water’s SEA assessment area.

B.10.2 Future Baseline

With the pressures for housing in parts of the assessment area, there are likely to be some threats to visual amenity more broadly beyond designated landscape areas (including within Green Belt). Climate change and land use change (e.g. due to agricultural reform associated with the UK’s exit from the EU and Common Agricultural Policy) may also, in the longer term, lead to changes to landscape character.

[64] www.landscapecharacter.org.uk, accessed 14th July 2006



Bristol Water Drought Plan SEA

Legend

- Assessment Area
- AONB

National Character Areas

- 106 Severn & Avon Vales
- 107 Cotswolds
- 108 Upper Thames CLay Vales
- 109 Midvale Ridge
- 117 Avon Vales
- 118 Bristol, Avon Valleys & Ridges
- 119 North Downs
- 133 Blackmoor Vale & Vale of Wardour
- 134 Dorest Downs and Cranborne Chase
- 140 Yeovil Scarplands
- 141 Mendip Hills
- 142 Somerset Levels and Moors
- 143 Mid Somerset Hills

FIGURE TITLE

Bristol Water Drought Plan
SEA Scoping Report:
National Character Areas

SCALE	DATE
1:300,000	December 2020

FIGURE

Figure B8

B.10.4 Key Issues

- The need to protect and improve the natural beauty of the area's AONBs and other areas of natural beauty.
- The need to protect and improve the character of landscapes and townscapes.

C Quality Assurance Checklist

ODPM Guidance[66] on SEA contains a Quality Assurance checklist to help ensure that the requirements of the SEA Directive are met. The checklist is reproduced in **Table C1,** indicating where this Scoping Report meets the requirements, and which requirements will be addressed in the Environmental Report.

Table C1 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 draft Drought Plan is set out in Section 1.1 of this Scoping Report.
Environmental issues and constraints, including international and EC 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.	Draft objectives are set out in Section 3.1 of this Scoping Report.
Links with other related plans, programmes and policies are identified and explained.	Links are identified in Section 2.2 and Appendix A of this Scoping Report.
Conflicts that exist between SEA objectives, between SEA and plan objectives and between SEA objectives and other plan objectives are identified and described.	Any such compatibility conflicts would be identified as part of the cumulative assessment completed during Stage B1 of the assessment of options and would be presented in the Environment Report.
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 Directive and will be circulated to consultees. Further consultation will be undertaken on the Environmental Report and the Draft Drought Plan. The consultation process is described in Section 1.6.
The assessment focuses on significant issues.	The proposed scope of the assessment reflects the geographic extent of Bristol Water's supply area and provides a comprehensive approach to assessment which will enable the subsequent assessment to determine which impacts will 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 1.4.2 and 2.3.2 of this Scoping Report.
Reasons are given for eliminating issues from further consideration.	The proposed objectives provide a comprehensive basis for assessment and at this stage, no issues have been eliminated.
Alternatives	
Realistic alternatives are considered for key issues, and the reasons for choosing them are documented.	The appraisal framework, which will be revised following consultation, will be used to assess drought options. This will be set out in the Environmental Report.

[66] Office of the Deputy Prime Minister (2005) A Practical Guide to the Strategic Environmental Assessment Directive.

Alternatives include 'do minimum' and/or 'business as usual' scenarios wherever relevant.	Assessment of alternatives will be considered in the Environmental Report.
The environmental effects (both adverse and beneficial) of each alternative are identified and compared.	Assessment of alternatives will be considered in the Environmental Report.
Inconsistencies between the alternatives and other relevant plans, programmes or policies are identified and explained.	Assessment of alternatives will be considered in the Environmental Report.
Reasons are given for selection or elimination of alternatives.	Assessment of alternatives will be 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 Appendix B of this Scoping Report 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 Bristol Water's water supply area, and bordering regions where appropriate, are described in Section 1.2, Appendix B, Section 2.3.
Difficulties such as deficiencies in information or methods are explained.	Difficulties and limitations are set out in Section 2.3.2.
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 will be set out in the Environmental Report.
Both positive and negative effects are considered, and the duration of effects (short, medium or long-term) is addressed.	The nature and duration of potential effects will be set out in the Environmental Report, using an appraisal framework based on the one included in Section 3.2.1of this Scoping Report.
Likely secondary, cumulative and synergistic effects are identified where practicable.	These effects will be identified in the Environmental Report, as described in Section 3.2.2.
Inter-relationships between effects are considered where practicable.	These effects will be identified in the Environmental Report, using an appraisal framework based on the one included in Section 3.2.1 of this Scoping Report.
The prediction and evaluation of effects makes use of relevant accepted standards, regulations, and thresholds.	Relevant standards will be used where appropriate in undertaking the assessment in the Environmental Report.
Methods used to evaluate the effects are described.	The Environmental Report will include information on the methods used for evaluation of potential effects.
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 negative effects will be incorporated into the assessment undertaken in preparing the Environmental Report.
Issues to be taken into account in project consents are identified.	Such mitigating measures, if required, will be highlighted against the drought options. It is noted that Environmental Reports which include Environmental Management Plans have been prepared for the confirmed Drought Permit sites (see Section 1.3).

The Environmental Report	
Is clear and concise in its layout and presentation.	The Environmental Report will be clear and concise.
Uses simple, clear language and avoids or explains technical terms.	The Environmental Report will use simple, clear language, and explain technical terms, as appropriate.
Uses maps and other illustrations where appropriate.	The Environmental Report will use maps and illustrations where appropriate.
Explains the methodology used.	SEA methodology will be described in the Environmental Report.
Explains who was consulted and what methods of consultation were used.	The consultation strategy, including organisations and dates of consultation will be included in the Environmental Report.
Identifies sources of information, including expert judgement and matters of opinion.	Sources of information will be detailed in 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 will include a Non-Technical Summary.
Consultation	
The SEA is consulted on as an integral part of the plan-making process.	This Scoping Report is a part of the consultation process required to meet the requirements of the SEA Directive and will be circulated to consultees. Further consultation will be undertaken on the Environmental Report and Draft Drought Plan. The consultation process is described in Section 1.6.
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.	This Scoping Report is a part of the consultation process required to meet the requirements of the SEA Directive and will be circulated to consultees. Further consultation will be undertaken on the Environmental Report and Draft Drought Plan. The consultation process is described in Section 1.6.
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.	Responses from consultation on the draft Environmental Report will be incorporated in the development of the final Environmental Report. After finalisation of the Drought Plan, a statement will be published describing how the SEA and the responses to consultation have been taken into account during the preparation of the Drought Plan (see Section 4.2 of this Scoping Report).
An explanation is given of how they have been taken into account.	Consultation responses, and how they have been incorporated in the final Environmental Report will be incorporated in the report. After finalisation of the Drought Plan, a statement will be published describing how the SEA and the responses to consultation have been taken into account during the preparation of the Drought Plan (see Section 4.2 of this Scoping Report).
Reasons are given for choosing the plan or programme as adopted, in the light of other reasonable alternatives considered.	This will be set out following consultation on the Draft Drought Plan and Environmental Report.

Monitoring measures	
Measures proposed for monitoring are clear, practicable and linked to the indicators and objectives used in the SEA.	The Environmental Report will include a section addressing proposals for monitoring.
Monitoring is used, where appropriate, during implementation of the plan or programme to make good deficiencies in baseline information in the SEA.	The suggestions for monitoring will be made in the Environmental Report, with monitoring taking place following implementation of the Drought Plan, 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).	The suggestions for monitoring will be made in the Environmental Report, with monitoring taking place following implementation of the Drought Plan, 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 will be addressed in the Environmental Report.

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