Appendices

D Assessment Tables

This appendix presents the SEA assessment tables for all supply and demand management options contained in Bristol Water's Draft Drought Plan.

Appeals for Restraint Demand Management Measure

Topic	SEA Objective	Potential residual effect on sensitive receptors (assuming good practice construction methods)	Scale of effect : (Small / Medium / Large)	Certainty of effect (Low/ Medium/ High)	Duration (Short/ Medium/ Long)	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, Flora and Fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species and to enhance natural capital.	This measure will have no adverse impacts on biodiversity, flora or fauna, or designated sites of nature conservation interest but the measure will reduce consumer demand for water and thereby reduce the requirement for abstraction from Bristol Water's sources, with the potential for positive impacts on flow sensitive habitats/ species.	Medium	Medium	Short.	Temporary	Low (beneficial)	Medium	None	Minor beneficial
	1.2 To avoid introducing or spreading INNS	The appeals for restraint are considered to have no impact on avoiding the introduction or spreading of INNS, with reduced abstraction requirements leaving more water in river systems.	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
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).	The appeals for restraint will result in water savings (estimated at 1% of total household demand) which will contribute towards improving the security of supply for customers in Bristol Water's supply region. It will also help raise awareness of the importance and value of the water environment for health and wellbeing. No adverse effects are anticipated.	Medium	High	Short.	Temporary	Low (beneficial)	Medium	None	Minor beneficial
	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).	No impacts on recreation, tourism or navigation are anticipated as a result of the appeals for restraint in water use.	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	2.3 To promote a sustainable economy with good access to essential services, including a resilient, high quality and affordable supply of water.	The appeals for restraint will result in water savings which will contribute towards improving the security of water supply for businesses in the region, therefore protecting the local economy. No adverse effects are anticipated.	Medium	Medium	Short.	Temporary	Low (beneficial)	Medium	None	Minor beneficial
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.	The appeals for restraint will not involve any increased use of material resources nor any increase in waste production. Rather, this measure will reduce the amount of water used in the region.	Medium	Medium	Short.	Temporary	Low (beneficial)	Medium	None	Minor beneficial
	3.2 To promote and secure the efficient and sustainable use of water to ensure resilient water supplies for people and businesses.	The appeals for restraint will result in promoting the sustainable management of natural resources including efficient and sustainable use of water, as well as helping to maintain essential water supplies to homes and businesses. No adverse effects are anticipated.	Medium	Medium	Short.	Temporary	Low (beneficial)	Medium	None	Minor beneficial

Topic	SEA Objective	Potential residual effect on sensitive receptors (assuming good practice construction methods)	Scale of effect : (Small / Medium / Large)	Certainty of effect (Low/ Medium/ High)	Duration (Short/ Medium/ Long)	Permanence of effect (Permanent/ temporary)	Magnitude of Effect (Low/ Medium/ High)	Value/ sensitivity of receptor (Low/ Medium/ High)	Residual Adverse Effect	Residual Beneficial Effect
Water	4.1 To avoid adverse impacts on surface and groundwater levels and flows, including when this impacts on habitats.	The appeals for restraint are considered to have a beneficial impact on the water environment, acknowledging that reduced consumer demand for water will result in a reduced requirement for abstraction from water resources in the Bristol Water operating area. No adverse effects are anticipated.	Medium	Medium	Short.	Temporary	Low (beneficial)	Medium	None	Minor beneficial
	4.2 To protect and enhance surface and groundwater quality and protect and enhance estuarine waterbodies.	Reductions in demand for water from the appeals for restraint would result in a reduced requirement for abstraction from Bristol Water's sources. This will reduce associated impacts to surface water and groundwater quality in drought conditions. No adverse effects are anticipated.	Medium	Medium	Short	Temporary	Low (beneficial)	Medium	None	Minor beneficial
	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.	The appeals for restraint are considered to have a minor beneficial impact on water abstraction management, acknowledging that reduced consumer demand for water will result in reduced abstraction at Bristol Water's sources. No adverse effects are anticipated.	Medium	Medium	Short	Temporary	Low (beneficial)	Medium	None	Minor beneficial
Soils, geology and land use	5.1 To protect and enhance geology, geomorphology and the quality and quantity of soils.	No impacts on geology, geomorphology and quality or quantity for soils are anticipated as a result of the appeals for restraint in water use.	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Air and climate	6.1 To reduce air pollutant emissions.	No impacts on air quality are anticipated as a result of the appeals for restraint in water use.	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	6.2 To reduce greenhouse gas emissions.	The appeals for restraint will not involve any increased resource use, or increased greenhouse gas emissions.	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	6.3 To adapt and improve resilience to the threats of climate change.	The appeals for restraint are temporary in nature and will not result in any improvement in long-term resilience to the impacts of climate change nor have any adverse effects.	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Archaeology and cultural heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites	The appeals for restraint are considered to have no direct impact on the historic environment, heritage assets and their settings and archaeologically important sites. There is the potential for reduced consumer demand for water and consequently reducing abstraction at Bristol Water's sources; potentially reducing any impacts of drought-related effects on archaeology and cultural heritage assets.	Medium	Medium	Short	Temporary	Low (beneficial)	Low	None	Negligible beneficial
Landscape and visual amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	The appeals for restraint are considered to have no direct impact on landscape and visual amenity or any changes to access to the countryside or open space. There is the potential for reduced consumer demand for water and consequent abstraction at Bristol Water's sources. This could potentially minimise any impacts of drought-related landscape or visual impacts.	Medium	Medium	Short	Temporary	Low (beneficial)	Low	None	Negligible beneficial

Increased leakage detection and repair activities

Topic	SEA Objective	Potential residual effect on sensitive receptors (assuming good practice construction methods)	Scale of effect : (Small / Medium / Large)	Certainty of effect (Low/ Medium/ High)	Duration (Short/ Medium/ Long)	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, Flora and Fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species and to enhance natural capital.	Construction activities associated with leakage detection and repair activities may result in disturbance to local habitats and species during the works. The majority of works are anticipated to be in an urban setting. Assuming best practice construction methods, impacts of the construction phase are anticipated to be negligible. The reduction in water lost through leakage will result in reduced requirement for abstraction at water sources and therefore, potential for positive impacts on river flows and water-dependant sensitive habitats / species.	Medium (beneficial)	High	Short	Temporary (adverse) Permanent (beneficial)	Low (adverse) Low (beneficial)	Low (adverse) Medium (beneficial)	Negligible adverse	Minor beneficial
	1.2 To avoid introducing or spreading INNS	Leakage detection and repair activities will not affect the spread of INNS.	n/a	n/a	n/a	n/a	n/a	n/a	n/ae	n/a
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).	Leakage detection and repair activities will provide water savings which will contribute towards improving security supply of water in the Bristol Water supply region and helping to maintain public health and well-being of the population served by Bristol Water. No adverse effects anticipated.	Medium (beneficial) Small (adverse)	Medium	Short	Temporary	Low (beneficial)	Medium (beneficial)	None	Minor beneficial
	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).	Construction activities associated with leakage detection and repair activities may result in temporary nuisance effects associated with traffic and noise. However, these will be short term at any one location (likely to be urban) and assuming best practice construction methods, effects will be minor. It is assumed that public rights of way will be maintained during repair activities and there will be no effects on recreational opportunity. No beneficial effects are anticipated.	Small (adverse)	Low	Short(adverse)	Temporary (adverse)	Low (adverse)	Medium (adverse)	Minor adverse	None
	2.3 To promote a sustainable economy with good access to essential services, including a resilient, high quality and affordable supply of water.	Leakage detection and repair activities will help to conserve water supplies for essential water uses that support the economy and essential services. No adverse effects anticipated.	Medium (beneficial)	Low	Short (beneficial)	Temporary (beneficial)	Low (beneficial)	High (beneficial)	None	Minor beneficial
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.	Increased leakage detection and repair activities will result in the reduction of water lost through leakage in the supply network and therefore the energy and chemicals used to treat it. Repairs may require the use of raw materials at a small scale.	Small (beneficial) Small (adverse)	High	Short	Permanent	Low (beneficial) Low (adverse)	Low (beneficial) Low (adverse)	Negligible adverse	Negligible beneficial

Topic	SEA Objective	Potential residual effect on sensitive receptors (assuming good practice construction methods)	Scale of effect : (Small / Medium / Large)	Certainty of effect (Low/ Medium/ High)	Duration (Short/ Medium/ Long)	Permanence of effect (Permanent/ temporary)	Magnitude of Effect (Low/ Medium/ High)	Value / sensitivity of receptor (Low / Medium / High)	Residual Adverse Effect	Residual Beneficial Effect
	3.2 To promote and secure the efficient and sustainable use of water to ensure resilient water supplies for people and businesses.	Leakage detection and repair activities contribute to the sustainable water use therefore providing security of essential water supplies and helping to protect the maintenance of essential water supplies to people and businesses. No adverse effects are anticipated.	Medium	Medium	Long (beneficial)	Permanent (beneficial)	Low (beneficial)	Medium (beneficial)	None	Minor beneficial
Water	4.1 To avoid adverse impacts on surface and groundwater levels and flows, including when this impacts on habitats.	Leakage detection and repair activities will result in a small reduction in abstraction from water sources with minor beneficial effects for river flow and groundwater levels. No adverse effects are anticipated.	Medium (beneficial)	Moderate	Long (beneficial)	Permanent (beneficial)	Low (beneficial)	Medium (beneficial)	None	Minor beneficial
	4.2 To protect and enhance surface and groundwater quality and protect and enhance estuarine waterbodies.	Construction activities associated with leakage detection and repair activities may result in the potential for impacting on local surface and groundwater quality. Assuming best practice construction methods, impacts of the construction phase are anticipated to be negligible. The reduction in water lost through leakage will result in a small reduction in abstraction from water sources with minor beneficial effects for surface water quality. .	Medium (beneficial) Small (adverse)	Moderate	Long (beneficial) Short(adverse)	Permanent (beneficial) Temporary (adverse)	Low (beneficial) Low (adverse)	Medium (beneficial) Low (adverse)	Negligible adverse	Minor beneficial
	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.	Reduction in demand for water from leakage detection and repair activities will result in a reduced requirement for abstraction from Bristol Water's sources, helping provide some protection for water-dependent ecosystems. No adverse effects are anticipated.	Medium (beneficial)	High	Long (beneficial)	Permanent (beneficial)	Low (beneficial)	Medium (beneficial)	None	Minor beneficial
Soils, geology and land use	5.1 To protect and enhance geology, geomorphology and the quality and quantity of soils.	Construction activities associated with increased leakage detection and repair activity may result in a small amount of localised disturbance to geology and land use but with mitigation and reinstatement measures the effects should be temporary and short-term. No beneficial effects are anticipated.	Small (adverse)	High	Short (adverse)	Temporary (adverse)	Low (adverse)	Low (adverse)	Negligible adverse	None
Air and climate	6.1 To reduce air pollutant emissions.	Vehicle trips necessary for leakage detection and repair, together with excavation activity to reach underground pipes,will cause some temporary, short-term emissions affecting air quality, including some within Air Quality Management Areas in Bristol Water's supply area. No beneficial effects are anticipated.	Small (adverse)	Medium	Short (adverse)	Temporary (adverse)	Low (adverse)	High (adverse)	Minor adverse	None
	6.2 To reduce greenhouse gas emissions.	Vehicle trips for leakage detection and repair and use of materials for leak repairs will cause emissions of greenhouse gases. Leakage detection and repair activity will result in reduced demand for water resulting in long term minor energy savings associated with decreased need for water treatment and pumping.	Medium	Moderate	Short (adverse) Long(beneficial)	Permanent	Low (beneficial) Low (adverse)	Medium (beneficial) Medium (adverse)	Minor adverse	Minor beneficial

Topic	SEA Objective	Potential residual effect on sensitive receptors (assuming good practice construction methods)	Scale of effect : (Small / Medium / Large)	Certainty of effect (Low/ Medium/ High)	Duration (Short/ Medium/ Long)	Permanence of effect (Permanent/ temporary)	Magnitude of Effect (Low/ Medium/ High)	Value / sensitivity of receptor (Low / Medium / High)	Residual Adverse Effect	Residual Beneficial Effect
	6.3 To adapt and improve resilience to the threats of climate change.	Reduced demand for water due to leakage detection and repair activities will help contribute to the resilience of water supplies to drought which may become more prevalent in the future due to climate change. No adverse effects are anticipated.	Small (beneficial)	High	Long (beneficial)	Permanent (beneficial)	Low (beneficial)	High (beneficial)	None	Minor beneficial
Archaeology and cultural heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites	it is not anticipated that any sites of archaeological or cultural heritage importance will be affected by the leakage detection and repair activity. The setting of any surrounding heritage assets may be impacted for the short term during excavation activity to reach underground pipes for repair.. No beneficial effects are anticipated.	Small (adverse)	Moderate	Short (adverse)	Temporary	Low (adverse)	Low (adverse)	Negligible adverse	None
Landscape and visual amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	The majority of leak repair works are considered to be in an urban setting. Assuming best practice construction methods, impacts of the construction phase are considered to be negligible on townscapes and short-term in nature. The scheme will have no direct affect on landscapes and other visual amenity. No beneficial effects are anticipated.	Small (adverse)	Moderate	Short (adverse)	Temporary	Low (adverse)	Low (adverse)	Negligible adverse	None

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Temporary Use Ban Demand Management Measure

Topic	SEA Objective	Potential residual effect on sensitive receptors (assuming good practice construction methods)	Scale of effect : (Small/ Medium / Large)	Certainty of effect (Low/ Medium/ High)	Duration (Short/ Medium/ Long)	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.	The temporary use ban is considered to have negligible adverse impacts on biodiversity, flora and fauna. The ban would prevent the refilling of domestic ponds which may result in some adverse impact, but the biodiversity of domestic ponds is considered to be low overall. The reduced consumer demand for water will result in reduced requirement for abstraction from Bristol Water's sources and, therefore, has the potential for positive impacts on flow, sensitive habitats/species, etc.	Medium	Moderate	Short	Temporary	Low (beneficial) Low (adverse)	Medium (beneficial) Low (adverse)	Negligible	Minor beneficial
	1.2 To avoid introducing or spreading INNS.	The temporary use ban is very unlikely to introduce or spread INNS, with reduced abstraction requirements leaving more water in river systems.	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
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).	The temporary use ban will provide water savings which will contribute towards improving security of supply of water in the Bristol Water supply region. Drinking water quality will not be affected by the restrictions and there will be no impact on essential water uses that are necessary to maintain public health and well-being of the population served by Bristol Water.	Medium	High	Short	Temporary	Low (beneficial)	High	None	Moderate beneficial

Topic	SEA Objective	Potential residual effect on sensitive receptors (assuming good practice construction methods)	Scale of effect : (Small/ Medium / Large)	Certainty of effect (Low/ Medium/ High)	Duration (Short/ Medium/ Long)	Permanence of effect (Permanent/ temporary)	Magnitude of Effect (Low/ Medium/ High)	Value/ sensitivity of receptor (Low/ Medium/ High)	Residual Adverse Effect	Residual Beneficial Effect
	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).	The temporary use ban will have some domestic recreational impacts, for example not being able to refill or maintain a domestic swimming pool or water gardens with a hosepipe or sprinkler. There will be minor beneficial effects on some water-dependent recreation, tourism as well as navigation by reducing the impact of abstraction on river flows and/or water levels in drought conditions.	Small	Low	Short	Temporary	Medium (adverse)	Low	Minor adverse	Minor beneficial
	2.3 To promote a sustainable economy with good access to essential services, including a resilient, high quality and affordable supply of water.	The principal impact will be on domestic customers as the ban would preclude use of water for those use categories set out under the temporary ban powers. The temporary use ban would include an exemption for commercial businesses in respect of the washing of private cars and washing of windows. The ban may indirectly have an adverse impact on businesses which benefit from the sale of certain water-using appliances, such as hosepipes and sprinklers. The ban will help to conserve water supplies for essential water uses that support the economy and essential services.	Medium	Medium	Short	Temporary	Low (adverse) Medium (beneficial)	Medium	Minor adverse	Moderate beneficial
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.	The ban will reduce the demand for water in the region, improving the efficiency of existing water resource use. It will not result in any increase in the generation of waste. No adverse effects are anticipated.	Medium	Medium	Medium	Temporary	Low (beneficial)	Medium	None	Minor beneficial
	3.2 To promote and secure the efficient and sustainable use of water to ensure resilient water supplies for people and businesses.	The ban will reduce the demand for water in the region, therefore providing security of essential water supplies and helping to protect the maintenance of essential water supplies to people and businesses. No adverse effects are anticipated.	Medium	High	Medium	Temporary	Medium (beneficial) Medium (beneficial)	Medium	None	Moderate beneficial
Water	4.1 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats.	The ban will not directly result in, or modify, any abstraction (surface water or groundwater). Reduced demand for water will result in reduced abstraction from Bristol Water's sources, thereby minimising impacts on water levels and river flows in drought conditions. No adverse effects are anticipated.	Medium	Medium	Medium	Temporary	Low	Medium	None	Minor beneficial
	4.2 To protect and enhance surface and groundwater quality and protect and enhance estuarine waterbodies.	Reduced demand for water will reduce the requirement for increased abstraction from Bristol Water's sources. Consequently, the associated impacts on surface water and groundwater quality during drought conditions will be minimised. No adverse effects are anticipated.	Low	Low	Short	Temporary	Low (beneficial)	Medium	None	Minor beneficial
	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	Reduced demand for water will result in reduced abstraction from Bristol Water's sources; consequently, helping to provide some protection for water-dependent ecosystems. No adverse effects are anticipated.	Medium	Medium	Medium	Temporary	Low (beneficial)	Medium	None	Minor beneficial

Topic	SEA Objective	Potential residual effect on sensitive receptors (assuming good practice construction methods)	Scale of effect : (Small/ Medium / Large)	Certainty of effect (Low/ Medium/ High)	Duration (Short/ Medium/ Long)	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.	No impacts on geology, geomorphology and quality/quantity of soils are anticipated as a result of the temporary use ban.	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Air and climate	6.1 To reduce air pollutant emissions.	No impacts on air quality are anticipated as a result of the ban.	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	6.2 To reduce greenhouse gas emissions.	The ban will not involve any increased resource use, or increased greenhouse gas emissions.	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	6.3 To adapt and improve resilience to the threats of climate change.	The ban is temporary in nature and will not result in any improvement in long-term resilience to the impacts of climate change nor have any adverse effects.	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Archaeology and cultural heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	The ban is considered to have no direct impact on the historic environment, heritage assets and their settings and archaeologically important sites. There is potential for reduced consumer demand for water to result in reduced requirement for abstraction from Bristol Water's sources, potentially reducing the magnitude of any drought-related effects on archaeology and cultural heritage assets.	Medium	Medium	Medium	Temporary	Low (beneficial)	Low	None	Negligible beneficial
Landscape and visual amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	The ban is considered to have no direct impact on landscape and visual amenity or any changes to access to the countryside or open space. There is potential for the reduced consumer demand for water to result in reduced abstraction from Bristol Water's sources; consequently, decreasing the magnitude of any drought-related effects on landscape or visual amenity.	Medium	Medium	Medium	Temporary	Low (beneficial)	Low	None	Negligible beneficial

Non-essential use ban (NEUB) Demand Management Measure

Topic	SEA Objective	Potential residual effect on sensitive receptors (assuming good practice construction methods)	Scale of effect : (Small/ Medium / Large)	Certainty of effect (Low/ Medium/ High)	Duration (Short/ Medium/ Long)	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.	The ban is considered to have no adverse impact on biodiversity, flora and fauna. Reduced consumer demand for water will result in a reduced requirement for abstraction from Bristol Water's sources and, therefore, potential for positive impacts on flow, sensitive habitats / species, etc.	Medium	Medium	Short.	Temporary	Low (beneficial)	Medium	None	Minor beneficial
	1.2 To avoid introducing or spreading INNS.	The ban is likely to have no impact on avoiding the introduction or spreading of INNS, with reduced abstraction requirements leaving more water in river systems.	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
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).	The ban will provide water savings which will contribute towards improving security supply of water in the Bristol Water supply region. Drinking water quantity will not be affected by the restrictions and there will be no impact on essential water uses that are necessary to maintain public health and well-being of the population served by Bristol Water.	Medium	Medium	Short.	Temporary	Low (beneficial)	Medium	None	Minor beneficial
	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).	There may be potential for minor impacts upon recreation due to restrictions on filling of swimming pools, watering of sports pitches, etc. There may also be minor impacts associated with the setting of tourist attractions, for example water features and parks / gardens associated with popular tourist sites. No beneficial effects are anticipated.	Medium	Low	Short.	Temporary	Low (adverse)	Medium	Minor adverse	None
	2.3 To promote a sustainable economy with good access to essential services, including a resilient, high quality and affordable supply of water.	The ban carries the risk of major adverse economic impact on a range of water-dependent but non-essential businesses that that would be prohibited under the ban (such as window cleaning businesses, some sports and leisure facilities, garden and landscape orientated businesses). The ban may result in some business loss if the water-related operations has to be suspended and would only be applied by Bristol Water as a last resort. The ban will help to conserve water supplies for essential water uses that support the economy and essential services.	Medium	Medium	Short.	Temporary	Medium (adverse) Low (beneficial)	High	Major Adverse	Minor beneficial
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.	The ban will reduce the demand for water in the region, improving the efficiency of existing water resource use in the short term. It will not result in any increase in waste generation or consumption of other resources. No adverse effects are anticipated.	Medium	Low	Short.	Temporary	Low (beneficial)	Medium	None	Minor beneficial
	3.2 To promote and secure the efficient and sustainable use of water to ensure resilient water supplies for people and businesses.	The ban will reduce the demand for water in the region, therefore providing security of essential water supplies and helping to protect the maintenance of essential water supplies to people and businesses. No adverse effects are anticipated.	Medium	Medium	Short.	Temporary	Low (beneficial)	Medium	None	Minor beneficial

Topic	SEA Objective	Potential residual effect on sensitive receptors (assuming good practice construction methods)	Scale of effect : (Small/ Medium / Large)	Certainty of effect (Low/ Medium/ High)	Duration (Short/ Medium/ Long)	Permanence of effect (Permanent/ temporary)	Magnitude of Effect (Low/ Medium/ High)	Value/ sensitivity of receptor (Low/ Medium/ High)	Residual Adverse Effect	Residual Beneficial Effect
Water	4.1 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats.	The ban will not directly result in, or modify, any abstraction (surface water or groundwater). Reducing demand for water will result in a reduced requirement for abstraction at Bristol Water's sources and consequently minimising impacts on water levels and river flows in drought conditions. No adverse effects are anticipated.	Low	Low	Short.	Temporary	Low (beneficial)	Medium	None	Minor beneficial
	4.2 To protect and enhance surface and groundwater quality and protect and enhance estuarine waterbodies.	Reducing demand for water will result in a reduced requirement for increased abstraction from Bristol Water's sources. In turn, this will minimise associated impacts on surface water and groundwater quality during drought conditions. No adverse effects are anticipated.	Low	Low	Short.	Temporary	Low (beneficial)	Medium	None	Minor beneficial
	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	Reduction in demand for water will result in a reduced requirement for abstraction from Bristol Water's sources, helping provide some protection for water-dependent ecosystems. No adverse effects are anticipated.	Low	Low	Short.	Temporary	Low (beneficial)	Medium	None	Minor beneficial
Soil, geology and land use	5.1 To protect and enhance geology, geomorphology and the quality and quantity of soils.	No impacts on geology, geomorphology and quality / quantity of soils are anticipated as a result of the drought order to ban non-essential use.	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Air and climate	6.1 To reduce air pollutant emissions.	No impacts on air quality are anticipated as a result of the ban.	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	6.2 To reduce greenhouse gas emissions.	The ban will not involve any increased resource use, or increased greenhouse gas emissions.	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	6.3 To adapt and improve resilience to the threats of climate change.	The ban is temporary in nature and will not result in any improvement in long-term resilience to the impacts of climate change nor have any adverse effects.	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Archaeology and cultural heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	There may be minor impacts associated with the setting of some heritage assets, for example, visual impacts on registered parks and gardens and /or the grounds of listed buildings due to the ban on watering of gardens and grounds. Notwithstanding these impacts, the ban is considered unlikely to have any direct impact on the historic environment, heritage assets and archaeologically important sites. There is the potential for reduced consumer demand for water to result in reduced requirement for abstraction at Bristol Water's sources, potentially lowering the magnitude of any drought-related effects on archaeology and cultural heritage assets.	Low	Low	Short.	Temporary	Low (beneficial)	Low	Minor adverse	Negligible beneficial
Landscape and visual amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	There may be some localised effects on townscapes and the setting of some visual amenities due to the ban on watering of gardens and grounds. However, the ban is considered to have no direct impact on landscape and visual amenity or any changes to access to the countryside or open space. There is the potential for reduced consumer demand for water to result in reduced requirement for abstraction at Bristol Water's sources, and potentially lowering the magnitude of any drought-related effects on landscape or visual amenity.	Low	Low	Short.	Temporary	Low (beneficial)	Low	Minor adverse	Negligible beneficial

R24R Well Supply Augmentation Measure

Topic	SEA Objective	Potential residual effect on sensitive receptors (assuming good practice construction methods)	Scale of effect: (Small/ Medium/ Large)	Certainty of effect (Low/ Medium/ High)	Duration (Short/ Medium/ Long)	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, Flora and Fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species and to enhance natural capital.	The potential for effects on European designated sites were considered in the HRA Screening. The screening assessment identified likely significant effects on the North Somerset and Mendip Bats SAC, Mendip Limestone Grassland SAC and Somerset Levels and Moors SAC, all due to potential adverse impacts to bat foraging habitats from construction activities as well as lower river flows due to abstraction. Cheddar Reservoir is designated as a SSSI and supports large numbers of wildfowl, eleven species of which occur regularly. It may also be used as a roost site by interest features of the Somerset Levels and Moors SPA. Construction of the new pipeline route at its nearest point is located approximately roughly 600m away from the reservoir with likely significant effects on some SPA and/or SSSI bird species. Several other SSSIs and areas of ancient woodland are located within 2km of the water source including the Rodney Stoke NNR/SSSI which is an area of woodland that lies approximately 1km to the east of the abstraction well site and Draycott Sleights SSSI which is located approximately 1km north-east of the abstraction well site. Construction works would not be expected to have direct effects on these designated sites as they are located on the Mendip Hills, elevated above the R24R Well site. The proposed new pipeline route runs through a 104m corridor of woodland, would involve 20 small watercourse crossings of less than 10m in width and 2 large watercourse crossings greater than 10m and crosses seven roads and runs alongside roads for several stretches of the route. It is likely to be necessary to fell some trees and hedgerows in order to enable these crossings and route sections. The pipeline would be constructed in accordance with best practice construction methods and mitigation measures. Depending on the final design solution and timing of construction works, further ecological surveys and supervision would be required to avoid adverse effects on protected species (e.g. Great Crested Newt surveys would be required as there are 24 ponds within 500m of the proposed pipeline route). Mitigation measures may include minor alterations to the pipeline alignment; trees with potential roosts would be avoided; hedgerows and linear features, such as rhynes would be avoided through directional drilling techniques; working in short sections to minimise the duration of effects. The operation of the pumping station and transfer pipeline is not expected to have any effects on any other sites that are important for biodiversity. The zone of hydrological influence has been defined as the Axe catchment, from the source to Brean Cross Sluice, a tidal sluice gate at the tidal limit, and the underlying Wells WFD groundwater water body. Also included is the Mendips WFD groundwater body. As identified by the WFD assessment, reduced flows due to abstraction are likely to cause moderate effects regarding fish and invertebrates, and minor effects to macrophytes within the River Axe downstream of the Stoke Brook confluence. Any flow reduction is likely to impact on river velocities, rather than level, due to the management of water level in the River Axe by weirs and other in-river control structures. There are no Groundwater Dependant Terrestrial Ecosystems (GWDTEs) that overlie the Wells WFD groundwater water body that might be impacted by increased drawdown due to abstraction.	Medium	Medium	Medium	Temporary	Medium	High	Major adverse	None

Topic	SEA Objective	Potential residual effect on sensitive receptors (assuming good practice construction methods)	Scale of effect: (Small/ Medium/ Large)	Certainty of effect (Low/ Medium/ High)	Duration (Short/ Medium/ Long)	Permanence of effect (Permanent/ temporary)	Magnitude of Effect (Low/ Medium/ High)	Value/ sensitivity of receptor (Low/ Medium/ High)	Residual Adverse Effect	Residual Beneficial Effect
	1.2 To avoid introducing or spreading INNS	There is a risk of introducing/spreading INNS during construction through the transportation of soil and construction waste. To mitigate this risk, invasive species on site will be identified and removed or treated in advance of construction works. Biosecurity measures will be in place to avoid any INNS being inadvertently transported to or from the site. Invasive species which may be present in the study area are not expected to be significantly impacted by the implementation of the drought permit against a baseline of reduced flows characteristic of a drought. Invasive plant species in the study area could utilise flow of the watercourse for dispersal but are not reliant on it, so reduced flows due to the abstraction are unlikely to increase dispersal.	Medium	Medium	Medium	Temporary	Medium	Medium	Moderate adverse	None
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).	Implementation of the supply augmentation measure will help conserve water resources within Cheddar Reservoir (2.4Ml/d benefit) and help maintain essential public water supplies during a period of drought. Some adverse effects may arise during construction in terms of noise, air pollution and traffic disruption. These effects would be short term and temporary, and the residual effect is therefore considered to be no more that Minor adverse.	Medium	Medium	Short	Temporary	Low (beneficial) Low (adverse)	Medium (beneficial) Medium (adverse)	Minor adverse	Minor beneficial
	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).	The construction of the new pipeline could cause temporary disruption to public rights of way over the short term. These effects would be mitigated as far as possible, such as by footpath diversions and screening. In operation, low river levels and flows may affect the aesthetics of the area. However, any impacts are not likely to be significant as any impacts would be temporary and river levels would be low during baseline conditions prior to implementation of the abstraction. It is noted that any flow reduction in the River Axe is likely to affect river velocities with potential medium-term minor impacts on angling, as potential adverse effects to resident fish populations would require time to recover.	Medium	Medium	Medium	Temporary	Low (adverse)	Medium	Minor adverse	None
	2.3 To promote a sustainable economy with good access to essential services, including a resilient, high quality and affordable supply of water.	This supply augmentation measure would be used to refill Cheddar Reservoir with respect to a one year-drought and support the local supply area with respect to a two-year drought. This measure has the potential to help minimise adverse effects of drought on businesses reliant on water supplies from Bristol Water.	Small	Medium	Short	Temporary	Low (beneficial)	Medium	None	Minor beneficial
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.	This supply augmentation measure involves the construction of a pipeline and a pumping station. Therefore, some modest material use for construction is required. Limited opportunities for re-use or recycling of waste materials have been identified, but operational use will involve relatively low energy use.	Small	High	Short	Temporary	Low	Medium	Minor adverse	None
	3.2 To promote and secure the efficient and sustainable use of water to ensure resilient water supplies for people and businesses.	No opportunities to promote the sustainable management of natural resources were identified. No adverse effects identified.	N/a	N/a	N/a	N/a	N/a	N/a	N/a	N/a

Topic	SEA Objective	Potential residual effect on sensitive receptors (assuming good practice construction methods)	Scale of effect: (Small/ Medium/ Large)	Certainty of effect (Low/ Medium/ High)	Duration (Short/ Medium/ Long)	Permanence of effect (Permanent/ temporary)	Magnitude of Effect (Low/ Medium/ High)	Value/ sensitivity of receptor (Low/ Medium/ High)	Residual Adverse Effect	Residual Beneficial Effect
Water	4.1 To avoid adverse impacts on surface and groundwater levels and flows, including when this impacts on habitats.	This supply augmentation measure involves a reinstatement of a licensed abstraction. Water would be abstracted from the Wells groundwater body (a Secondary Aquifer) at Rodney Stoke. Rodney Stoke spring forms the headwaters of the Stoke Brook, a tributary of the River Axe (Axe - source to Cocklake water body). When the artesian R24R wells are not in use, they overflow into the Stoke Brook The groundwater abstraction may influence surface water flows. Potential effects to Stoke Brook and local surface waters include derogated flows, completely removed flows or delayed flows depending on the seasonality of the abstraction implementation. The flow reduction in the River Axe downstream of the Stoke Brook confluence is considered medium in magnitude, with any flow reduction likely to affect river velocities, rather than river levels, due to the management of water level by weirs and other in-river control structures in the River Axe	Medium	Low	Medium	Temporary	Medium (adverse)	Medium	Moderate adverse	None
	4.2 To protect and enhance surface and groundwater quality and protect and enhance estuarine waterbodies.	Construction good practice methods and adherence to pollution control regulations should ensure no adverse effects to surface water or groundwater quality during construction of the pumping station and pipeline. The WFD assessment identified negligible risks of saline intrusion in the Wells groundwater body if abstraction from R24R Well exceeds the natural overflow rate of the spring, depending on seasonality of the abstraction, and noting that the spring stops flowing during dry periods. There is potential for minor adverse impacts to water quality and supporting physicochemical quality elements (phosphate) within the River Axe due to reduced dilution capacity resulting from a reduced contribution to river flows from groundwater input.	Medium	Low	Medium	Temporary	Low (adverse)	Medium	Minor adverse)	None
	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.	The WFD assessment identified the potential for minor (temporary and local) effects on the groundwater balance of the Wells groundwater body and negligible effects on groundwater dependant terrestrial ecosystems if abstraction from R24R Well exceeds the natural overflow rate of the spring, depending on seasonality of the abstraction, and noting that the spring stops flowing during dry periods. The route of the pipeline is within 50m of two small groundwater abstractions. Good construction management practices will ensure no adverse effects on water quality or water availability for the users of these groundwater sources. In operation, impacts to other water users are unlikely given that the source has been licensed for over 20 years.	Small	Low	Medium	Temporary	Low (adverse)	Low	Negligible (adverse	None
Soils, geology and land use	5.1 To protect and enhance geology, geomorphology and the quality and quantity of soils.	The construction of the transfer pipeline would have an adverse effect on good and versatile soil (Grade 2 and 3). However, this would be temporary, limited to a narrow corridor of development and with the soil cover restored following construction. Construction works at the R24R Well site would involve the clearing of the site and setting up trial pits. This would, in effect, involve the re-use of a brownfield site. The abstraction will lower groundwater levels which may affect peat deposits adjacent to the site, although the peat may already be adversely affected by natural drought conditions. The abstraction may delay the recovery of the groundwater levels following the end of the drought. Further, more detailed hydrogeological analysis of the impact on the peat layer will be carried out in the forthcoming Environmental Assessment Report (EAR) to ensure that harm is avoided during abstraction. Residual effects are assessed as	Medium	High	Medium	Temporary	Low	Medium	Minor adverse	None

Topic	SEA Objective	Potential residual effect on sensitive receptors (assuming good practice construction methods)	Scale of effect: (Small/ Medium/ Large)	Certainty of effect (Low/ Medium/ High)	Duration (Short/ Medium/ Long)	Permanence of effect (Permanent/ temporary)	Magnitude of Effect (Low/ Medium/ High)	Value/ sensitivity of receptor (Low/ Medium/ High)	Residual Adverse Effect	Residual Beneficial Effect
		Minor Adverse assuming these more detailed investigations are carried out and any appropriate mitigation measures employed where required.								
Air and climate	6.1 To reduce air pollutant emissions.	The supply augmentation measure will result in temporary minor increases in air emissions associated with construction of the pipeline and pumping station.	Small	High	Medium	Temporary	Low	Medium (adverse)	Minor adverse	None
	6.2 To reduce greenhouse gas emissions.	The carbon impact of the construction works is estimated at 1,583 tonnes CO2e, principally due to carbon embodied in construction materials. Operational carbon consumption is estimated at around 108 tonnes CO2e associated with water pumping and water treatment if abstraction takes place daily for a year.	Small	High	Medium	Temporary	Medium	Medium (adverse)	Moderate adverse	None
	6.3 To adapt and improve resilience to the threats of climate change.	The re-development of this water source will contribute to the future maintenance of essential water supplies during times of drought, which may become more prevalent and intense due to the effects of climate change.	Medium	High	Medium	Temporary	Low	Low (beneficial)	None	Minor beneficial
Archaeology and cultural heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites	An assessment was undertaken by consultants (Black & Veatch) in 2009 of the proposed outline pipeline route for the proximity of designated heritage sites and scheduled monuments. The route of the pipeline would be within 250m of a Scheduled Monument (Roman settlement site, Anglo-Saxon and Norman royal place and St Columbanus' Chapel). Further assessment also identified the Cheddar Conservation area in similar proximity and several other scheduled monuments located within 2km. The local area also has a number of Historic Environment Records - those in closest proximity to the proposed pipeline route include a roman salt site and warping drains. Construction activity is not anticipated to affect these sites subject to careful routing of the pipeline to avoid these heritage assets. The presence of paleoenvironmental deposits and the potential presence of historic remains in the waterlogged conditions with the zone of influence of the groundwater abstraction should be considered further as part of more detailed hydrogeological analysis in the forthcoming Environmental Assessment Report (EAR) to ensure that harm to these deposits and/or any waterlogged heritage assets is avoided during abstraction. Residual effects are assessed as Minor Adverse assuming these more detailed investigations are carried out and any necessary mitigation measures employed where required in consultation with Historic England.	Small	Medium	Medium	Temporary	Low (adverse)	Medium	Minor adverse	None
Landscape and visual amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	During construction there is the potential for some temporary adverse effects on visual amenity. Mitigation measures (such as screening) would lessen these effects, which are temporary in nature. However, the relatively small construction site will be visible from the Mendip Hills AONB (elevated above the construction site). Once operational, the abstraction is likely to affect river velocities in the River Axe, rather than river level. No adverse effects are anticipated on landscapes or visual amenity in the vicinity of the River Axe due to the management of water level by weirs and other in-river control structures. There is a potential for reduced flows in Stoke Brook which would have a temporary adverse effect on visual amenity.	Medium	Medium	Medium	Temporary	Low (adverse)	High	Moderate adverse	None

Reduction in compensation flow release from Blagdon Reservoir Drought Permit

Topic	SEA Objective	Potential residual effect on sensitive receptors (assuming good practice construction methods)	Scale of effect: (small/ medium/ large)	Certainty of effect (Low/ Medium/ High)	Duration (Short/ Medium/ Long)	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, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species and to enhance natural capital.	HRA Screening concluded that likely significant effects were anticipated to North Somerset and Mendip Bats SAC due to effects on bat foraging habitat, and to the Severn Estuary SAC and Ramsar site due to the presence of the designated European eel and river lamprey species in the impacted river reaches. The drought permit has the potential for adverse effects of low magnitude to Puxton Moor SSSI, Biddle Street SSSI and Yatton SSSI. Blagdon Lake SSSI is designated for its macrophyte community and could experience beneficial effects as a result of water levels being held higher for longer in Blagdon Reservoir. The magnitude of the influence of the compensation flow change on the hydrological conditions of the downstream river diminishes with distance from the reservoir, with a decreasing effect on the river wetted width, wetted depth and flow velocity affecting in-channel habitat availability and quality. The hydrological zone of influence extends 15.1km from Blagdon Reservoir to the tidal limit at Woodspring Bay. The drought permit could result in medium to high magnitude effects to macrophytes and fish (which include species of local and regional importance), and low to medium impacts to macroinvertebrates. The early and latter months of the drought permit implementation period coincide with the periods of upstream adult migration of river lamprey (October to December) and sea lamprey (April to May) , therefore posing a medium risk of adverse effects to these stages of their life cycle. The drought permit could lead to a medium to high risk of deterioration to the macrophyte, macroinvertebrate and fish elements of the WFD water body (GB109052021640 Yeo - source to conf Congresbury Yeo). These potential effects are considered medium term but temporary and reversible.	Medium	Medium	Medium	Temporary	Medium (adverse)	High	Major adverse	Negligible beneficial
	1.2 To avoid introducing or spreading INNS.	The reduction in compensation flow release would not result in the hydrological connection of any areas that would not otherwise be connected. It is therefore not anticipated that there would be any further introduction or spread of invasive non-native species (INNS). Relevant INNS include rainbow trout, Jenkin's spire snail and freshwater flatworm. Low flows will prohibit their colonisation and the implementation of drought permit is not anticipated to increase the spread of these INNS. No beneficial effects on the control of INNS are identified.	Small	Medium	Short	Temporary	Low (adverse)	Low	Negligible adverse	None
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).	Implementation of the drought permit will help conserve water resources within Blagdon Reservoir to help maintain essential public water supplies during a drought and therefore helping to maintain public health and well-being.	Medium	High	Short	Temporary	Low (beneficial)	Medium	Negligible adverse	Minor Beneficial

Topic	SEA Objective	Potential residual effect on sensitive receptors (assuming good practice construction methods)	Scale of effect: (small/ medium/ large)	Certainty of effect (Low/ Medium/ High)	Duration (Short/ Medium/ Long)	Permanence of effect (Permanent/ temporary)	Magnitude of Effect (Low/ Medium/ High)	Value/ sensitivity of receptor (Low/ Medium/ High)	Residual Adverse Effect	Residual Beneficial Effect
	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).	There is no construction phase associated with the drought permit. Implementation of this drought permit would affect hydrological conditions in the River Yeo for 15.1km with a decreasing effect on the wetted width and wetted depth with distance downstream of the Reservoir. This could result in a temporary short-term reduction in the recreation and amenity value of the river. There may be medium term impacts for angling, as potential adverse effects to resident fish populations would require time to recover following the drought. Implementation of the drought permit would result in less fluctuation in reservoir levels and wetted perimeter during a drought event helping to maintain recreation and tourism benefits.	Medium	High	Medium	Temporary	Low (adverse)	Medium	Negligible adverse	None
	2.3 To promote a sustainable economy with good access to essential services, including a resilient, high quality and affordable supply of water.	Implementation of the drought permit would increase the resilience of the water supply to Bristol Water's customers in a drought. This will contribute to the maintenance of a sustainable economy at the local to regional scale. There are no identified adverse environmental effects regarding this objective.	Medium	Medium	Short	Temporary	Low (beneficial)	Medium	None	Minor beneficial
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.	The drought permit does not require construction and therefore there will be no additional resource use associated with its implementation. The drought permit aims to conserve water storage in Blagdon Reservoir; it will not result in additional abstraction above the normal levels, and there will be no additional resource use or waste generation.	N/a	N/a	N/a	N/a	N/a	N/a	N/a	N/a
	3.2 To promote and secure the efficient and sustainable use of water to ensure resilient water supplies for people and businesses.	No opportunities to promote the sustainable use of water or other natural resources are directly associated with this drought permit.	N/a	N/a	N/a	N/a	N/a	N/a	N/a	N/a
Water	4.1 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats.	The implementation of the drought permit would not result in any reduction in groundwater levels. Implementation of the drought permit would lead to a temporary reduction in river flow along the River Yeo. Three impacted reaches (1 to 3) of the River Yeo have been identified between the Blagdon Reservoir compensation release point and the tidal limit at Woodspring Bay. In Reach 1, drought permit implementation would lead to a reduction in flow of 4.04Ml/d, or 47%, immediately downstream of the reservoir (considered high in magnitude). In Reach 2, flows would be reduced by 33-35% (considered high in magnitude). In Reach 3, flows would be reduced by 24-26% (the flow in Reach 3 is level controlled so the effects would be limited to changes in velocity). The drought permit would only be activated in drought conditions, when the flow in the River Yeo would likely already be substantially below normal levels. The effects on the River Yeo would be short term in duration, temporary and reversible.	Medium	High	Short	Temporary	High (adverse) Low (beneficial)	Medium	Major adverse	Minor beneficial

Topic	SEA Objective	Potential residual effect on sensitive receptors (assuming good practice construction methods)	Scale of effect: (small/ medium/ large)	Certainty of effect (Low/ Medium/ High)	Duration (Short/ Medium/ Long)	Permanence of effect (Permanent/ temporary)	Magnitude of Effect (Low/ Medium/ High)	Value/ sensitivity of receptor (Low/ Medium/ High)	Residual Adverse Effect	Residual Beneficial Effect
		Implementation of the drought permit would lead to minor beneficial effects on water levels and wetted perimeter of Blagdon Reservoir during a drought event.								
	4.2 To protect and enhance surface and groundwater quality and protect and enhance estuarine waterbodies.	Implementation of the drought permit would result in temporarily reduced flows in the River Yeo, reducing of the dilution capacity for any discharges to the river. There is a medium risk to the dilution capacity in respect of soluble reactive phosphorous, including reduced dilution of discharges from three sewage treatment works. This could result in short term, temporary reductions in water quality which could result in the 'River Yeo – source to confluence' WFD water body being less likely to meet its WFD targets. There is a low risk of deterioration of other water quality parameters such as dissolved oxygen and ammonia. Implementation of the drought permit would not result in reduced groundwater or estuarine water quality.	Medium	Medium	Short	Temporary	Medium (adverse)	Medium	Moderate adverse	None
	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.	The drought permit has the potential to temporarily impact upon river ecosystem function due to reduced river flows. There are other abstractions within the hydrological zone of influence for drinking water and industrial use. The implementation of the drought permit would lead to a temporary risk of short-term derogation to these abstractions.	Small	Medium	Short	Temporary	Medium (adverse)	Medium	Moderate adverse	None
Soil, geology and land use	5.1 To protect and enhance geology, geomorphology, and the quality and quantity of soils.	There are a number of SSSIs designated for their geological value within proximity of Blagdon Reservoir. These are Bourne SSSI, Burrington Combe SSSI and Middle Hope SSSI. It is not anticipated that the geological features in any of these sites will be affected implementation of the drought permit. Implementation of the drought permit would result in minor adverse effects to fluvial geomorphology and up to moderate effects on habitat availability through reductions in flow velocities, albeit maintained within the normal annual range. Reductions in flow are not expected to translate to reductions in river channel wetted width or depth. Implementation of the drought permit would not affect soil quality.	Small	Medium	Short	Temporary	Low (adverse)	Medium	Minor adverse	None
Air and climate	6.1 To reduce air pollutant emissions.	Implementation of the drought permit would not result in additional emissions to the atmosphere.	N/a	N/a	N/a	N/a	N/a	N/a	N/a	N/a
	6.2 To reduce greenhouse gas emissions	There would be no construction or additional abstraction as a result of the implementation of this drought permit and therefore no effects on greenhouse gases is expected.	N/a	N/a	N/a	N/a	N/a	N/a	N/a	N/a
	6.3 To adapt and improve resilience to the threats of climate change.	The drought permit is temporary in nature and will not result in any improvement in long-term resilience to the impacts of climate change nor have any adverse effects on climate change resilience.	N/a	N/a	N/a	N/a	N/a	N/a	N/a	N/a
Archaeology and cultural heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect	No additional infrastructure is required for the drought permit, and there will be no construction requirements. There are no heritage assets in proximity to the reservoir or the hydrological zone of influence along the River Yeo. There are no water-dependent palaeo-environmental features that could be affected by the implementation of the drought permit.	N/a	N/a	N/a	N/a	N/a	N/a	N/a	N/a

Topic	SEA Objective	Potential residual effect on sensitive receptors (assuming good practice construction methods)	Scale of effect: (small/ medium/ large)	Certainty of effect (Low/ Medium/ High)	Duration (Short/ Medium/ Long)	Permanence of effect (Permanent/ temporary)	Magnitude of Effect (Low/ Medium/ High)	Value/ sensitivity of receptor (Low/ Medium/ High)	Residual Adverse Effect	Residual Beneficial Effect
	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,	Blagdon Reservoir and part of the drought permit zone of hydrological influence falls within (or in close proximity to) the Mendip Hills AONB – designated for its natural beauty. The drought permit will temporarily result in lower river levels in the River Yeo with the potential for moderate adverse effects on the landscape. The drought permit will lead to the reservoir levels being slightly higher for longer with moderate beneficial effects on the landscape and setting of the Mendip Hills AONB. The effects are short term and reversible after the drought permit implementation period has expired.	Medium	Low	Short	Temporary	Low (adverse) Low (beneficial)	High	Moderate adverse	Moderate beneficial

Reduction in compensation flow release from Chew Valley Reservoir drought permit

Topic	SEA Objective	Potential residual effect on sensitive receptors (assuming good practice construction methods)	Scale of effect: (small/ medium/ large)	Certainty of effect (Low/ Medium/ High)	Duration (Short/ Medium/ Long)	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, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species and to enhance natural capital.	HRA Screening concluded that there were likely significant effects on the Severn Estuary SAC and Ramsar site due to the presence of European eel and River Lamprey designated species. Effects of moderate magnitude are identified regarding the River Chew and adjacent land (north of lake: part a) Local Wildlife Site (LWS) and effects of low magnitude in relation to the River Chew and adjacent land (north of lake: part b) LWS. Implementation of the drought permit would result in a reduction in compensation flow to the River Chew, with effects extending for 17km, at which point the reduction in flow is negligible due to the comparatively large catchment area of the River Avon. This is anticipated to result in a temporary, adverse effect of moderate magnitude to river habitat availability. Implementation of the drought permit would also result in a temporary, adverse effects of moderate magnitude on habitat quality, by fragmenting habitat. The drought permit may lead to medium to high (depending on timing of implementation) magnitude impacts to the macrophyte, and fish communities and medium magnitude impacts on macroinvertebrates associated with the WFD waterbodies in the zone of hydrological influence (GB109053021852 'Chew Valley Lake to conf Winford Brook' and GB109053021950 'Chew - conf Winford Bk to conf R Avon (Brist)'). The drought permit may lead to adverse effects of low to medium magnitude to species listed in the NERC Section 41 as species of notable and principal importance. Low river levels, caused by implementation of the drought permit, could reduce habitat connectivity and availability, as well as increasing the risk of stranding of species, and therefore predation.	Medium	Medium	Medium	Temporary	Medium (adverse)	High	Major adverse	None
	1.2 To avoid introducing or spreading INNS.	The reduction in compensation flow release would not result in the hydrological connection of any areas that would not otherwise be connected. It is therefore not anticipated that there would be any introduction of invasive non-native species (INNS). The drought permit is not expected to increase the distribution of invasive, non-native signal crayfish, rainbow trout, *Crangonyx pseudogracilis*, Jenkin's spire snail and Himalayan balsam. No beneficial effects on the control of INNS are identified.	Small	Medium	Short	Temporary	Low (adverse)	Low	Negligible adverse	None
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).	Implementation of the drought permit will conserve water storage in Chew Valley Reservoir, helping to secure essential water supplies for Bristol Water's customers and helping to maintain public health and well-being.	Medium	High	Short	Temporary	Low (beneficial)	Medium	None	Minor Beneficial
	2.2 To protect and enhance the water environment for other users, including recreation, tourism and navigation, as well as terrestrial recreational	Implementation of the drought permit would result in reductions in flow downstream of the reservoir to the confluence of the River Chew and the River Avon at Keynsham. There are a number public footpaths which run adjacent to and/or intersect the River Chew. The reduced wetted width and depth will affect the recreational and amenity value of the river. However, during a period of drought the river would naturally be low and	Medium	High	Medium	Temporary	Low (adverse) Low (beneficial)	Medium	Minor adverse	Minor beneficial

Topic	SEA Objective	Potential residual effect on sensitive receptors (assuming good practice construction methods)	Scale of effect: (small/ medium/ large)	Certainty of effect (Low/ Medium/ High)	Duration (Short/ Medium/ Long)	Permanence of effect (Permanent/ temporary)	Magnitude of Effect (Low/ Medium/ High)	Value/ sensitivity of receptor (Low/ Medium/ High)	Residual Adverse Effect	Residual Beneficial Effect
	resources (including national trails and public rights of way).	therefore the short-term effects are expected to be minor. There may be medium magnitude impacts on angling, as potential adverse effects to resident fish populations would require time to recover after the end of the drought. The drought permit will help to maintain water levels within Chew Reservoir relative to the levels that would occur without the drought permit in place, thereby providing some minor benefit to recreation and tourism.								
	2.3 To promote a sustainable economy with good access to essential services, including a resilient, high quality and affordable supply of water.	Implementation of the drought permit would increase the resilience of the water supply to Bristol Water's customers in a drought. This will contribute to the maintenance of a sustainable economy at the local to regional scale. There are no identified adverse environmental effects regarding this objective. .	Medium	Medium	Short	Temporary	Low (beneficial)	Medium	None	Minor beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, to domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	There would be no additional infrastructure required to implement the drought permit. There would be no abstraction above the present level. There would be no additional resource use, or waste generated, as a result of the drought permit.	N/a	N/a	N/a	N/a	N/a	N/a	N/a	N/a
	3.2 To promote and secure the efficient and sustainable use of water to ensure resilient water supplies for people and businesses.	No opportunities to promote the sustainable use of water or other natural resources are directly associated with this drought permit.	N/a	N/a	N/a	N/a	N/a	N/a	N/a	N/a
Water	4.1 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats.	The drought permit would not result in a reduction in groundwater levels. Implementation of the drought permit would result in temporary reductions in flow of the River Chew, decreasing with distance from Chew Valley reservoir to the confluence of the River Avon, of between 49% (upper reach) and 26% (lower reach) in summer. Flows would reduce by between 50% (upper reach) and 6% (lower reach) in winter. The reduction in flow in the upper reach are considered a major adverse impact. These reductions in flow are also expected to result in up to moderate effects to habitat availability and fragmentation. The drought permit would only be actioned in periods of drought, when the river levels and flows would already be below normal levels. Implementation of the drought permit would result in minor beneficial effects on the water levels at Chew Valley Reservoir, with water levels being held higher for longer. The effects would be temporary and reversible.	Medium	High	Short	Temporary	High (adverse) Low (beneficial)	Medium	Major adverse	Minor beneficial
	4.2 To protect and enhance surface and groundwater quality and protect and enhance estuarine waterbodies.	The drought permit would not result in impacts to groundwater quality. Implementation of the drought permit would result in reduced flow to the River Chew resulting in likely short term moderate adverse effects on water quality due to reduced pollution dilution capacity. There is up to a low risk of adverse effects for dissolved oxygen, medium risk for ammonia and high risk for soluble reactive phosphorus concentration. These water	Medium	Medium	Short	Temporary	Medium (adverse)	Medium	Moderate adverse	None

Topic	SEA Objective	Potential residual effect on sensitive receptors (assuming good practice construction methods)	Scale of effect: (small/ medium/ large)	Certainty of effect (Low/ Medium/ High)	Duration (Short/ Medium/ Long)	Permanence of effect (Permanent/ temporary)	Magnitude of Effect (Low/ Medium/ High)	Value/ sensitivity of receptor (Low/ Medium/ High)	Residual Adverse Effect	Residual Beneficial Effect
		quality effects would decrease with distance downstream and would be lower if the drought permit was implemented in the winter. Implementation of the drought permit would not result in any beneficial reduction in water pollution.								
	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.	The drought permit has the potential to affect river ecosystem function by temporarily reducing flows in the River Chew. Potential impacts are considered to be of a moderate magnitude. There are negligible risks to other existing abstractions from the River Chew due to implementation of the drought permit.	Small	Medium	Short	Temporary	Medium (adverse)	Medium	Moderate adverse	None
Soil, geology and land use	5.1 To protect and enhance geology, geomorphology, and the quality and quantity of soils.	Stidham Farm SSSI and Newton St Loe SSSI are designated for their geological value. Implementation of the drought permit would not result in adverse effects to either of these designated sites. Implementation of the drought permit could result in minor to moderate effects on fluvial geomorphology (decreasing in magnitude with distance downstream from Chew Valley reservoir). These effects are associated with sediment ingress to the river from rainfall-runoff during a period of reduced river flow velocity. The drought permit would not affect soil quality.	Small	Medium	Short	Temporary	Medium (adverse)	Medium	Moderate adverse	None
Air and climate	6.1 To reduce air pollutant emissions.	There is no construction associated with this drought permit. Implementation of the drought permit would not result in additional emissions to the atmosphere.	N/a	N/a	N/a	N/a	N/a	N/a	N/a	N/a
	6.2 To reduce greenhouse gas emissions	There is no construction associated with this drought permit. Implementation of the drought permit would not result in an increase in greenhouse gas emissions over and above that which would be produced to supply an equivalent quantity of water in non-drought conditions.	N/a	N/a	N/a	N/a	N/a	N/a	N/a	N/a
	6.3 To adapt and improve resilience to the threats of climate change.	The drought permit is temporary in nature and will not result in any improvement in long-term resilience to the impacts of climate change nor have any adverse effects on climate change resilience.	N/a	N/a	N/a	N/a	N/a	N/a	N/a	N/a
Archaeology and cultural heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	No additional infrastructure is required for the drought permit, and there will be no construction requirements associated with the drought permit. There are no heritage assets within the hydrological zone of influence that are anticipated to experience adverse effects because of implementation of the drought permit.	N/a	N/a	N/a	N/a	N/a	N/a	N/a	N/a
Landscape and visual amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside,	The Chew Valley Reservoir and the southern edge of the hydrological zone of influence of the drought permit lies within the Mendip Hills AONB. The drought permit will result in lower river levels in the River Chew which may temporarily affect the setting of the AONB. Implementation of the drought permit would help to preserve water levels within Chew Valley Reservoir, potentially helping to maintain the setting of the Mendip Hills AONB during drought periods. No other landscapes, either designated or undesignated, are anticipated to be affected.	Medium	Low	Short	Temporary	Low (adverse) Low (beneficial)	High	Moderate adverse	Moderate beneficial

Reduction of prescribed flow at Cheddar Reservoir drought permit

Topic	SEA Objective	Potential residual effect on sensitive receptors (assuming good practice construction methods)	Scale of effect: (small/ medium/ large)	Certainty of effect (Low/ Medium/ High)	Duration (Short/ Medium/ Long)	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, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species and to enhance natural capital.	HRA Screening determined that implementation of the drought permit may have likely significant effects on the Severn Estuary Ramsar site and SAC, due to the presence of designated fish species in the Cheddar Yeo river. No adverse effects have been identified regarding any nationally designated sites but there is the potential for temporary, reversible adverse effects of high magnitude to the Cheddar Yeo River Local Wildlife Site. Implementation of the drought permit would result in a major reduction in flow and flow velocity in the River Yeo from Cheddar Reservoir to its confluence with the River Axe (9.5km). This could result in impacts to habitat availability. Minor reductions in flow will occur in the River Axe from the River Yeo confluence to the tidal limit at Brean (9.5km). These temporary reductions in river flow could lead to temporary adverse effects, ranging from negligible to medium in magnitude, on various species listed in the NERC Act Section 41 as being species of principal importance. The macrophyte species water crowfoot and *Myriophyllum verticallatum* are anticipated to experience moderate to major impacts due to reduced flushing of sediment in winter, and changes to the macrophyte community composition as a result of lower flows leading to water quality deterioration. The macroinvertebrate species, riffle beetle and caddis fly, could experience low to medium magnitude effects due to changes in habitat quality and extent, changes in water quality and a decline in the abundance and distribution of selected species. A number of fish species could experience medium to high magnitude effects, including Atlantic salmon, brown trout, bullhead and European eel. These effects would occur due to a reduction in spawning and nursery habitats, decreased growth, morphological change, alteration to feeding pattern, habitat fragmentation and increased predation. All of these impacts are temporary and would be reversible. Implementation of the drought permit could adversely impact the ability of two WFD water bodies (the 'R Cheddar Yeo – source to conf Stubbingham Rhyne' (GB109052021540) water body and the 'Axe – Cocklake to Brean Cross Sluice' (GB109052021570) water body) to meet ecological WFD objectives by impacting upon macrophyte, macroinvertebrate and fish populations.	Medium	Medium	Medium	Temporary	Medium (adverse)	High	Major adverse	None
	1.2 To avoid introducing or spreading INNS.	The reduction in compensation flow release would not result in the hydrological connection of any areas that would not otherwise be connected. It is therefore not anticipated that there would be any further introduction of invasive non-native species (INNS). The drought permit is not expected to increase the distribution of the *Crangonyx pseudogracilis* and Jenkin's spire snail INNS. No beneficial effects on the control of INNS are identified.	Small	Medium	Short	Temporary	Low (adverse)	Low	Negligible adverse	Negligible beneficial
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	Implementation of the drought permit will conserve water storage within Cheddar Reservoir helping to secure essential water supplies for Bristol Water's customers helping to secure essential water supplies for Bristol Water's customers and helping to maintain public health and well-being.	Medium	High	Short	Temporary	Low (beneficial)	Medium	None	Minor Beneficial

Topic	SEA Objective	Potential residual effect on sensitive receptors (assuming good practice construction methods)	Scale of effect: (small/ medium/ large)	Certainty of effect (Low/ Medium/ High)	Duration (Short/ Medium/ Long)	Permanence of effect (Permanent/ temporary)	Magnitude of Effect (Low/ Medium/ High)	Value/ sensitivity of receptor (Low/ Medium/ High)	Residual Adverse Effect	Residual Beneficial Effect
	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).	The Cheddar Yeo has a public footpath along the entire reach (Cheddar Village to River Axe) and so there is the potential for temporary adverse effects to the recreational and amenity value of the river. During a period of drought, however, the river flow would naturally be low and due to the geomorphological and highly modified nature of the watercourses, limited impacts to river channel wetted width or depth are anticipated. Therefore, effects to recreation and amenity are expected to be minor. The drought permit will help maintain water levels within Cheddar Reservoir relative to those that would occur without the drought permit in place, therefore providing a minor benefit.	Medium	High	Medium	Temporary	Low (adverse) Low (beneficial)	Medium	Minor adverse	Minor beneficial
	2.3 To promote a sustainable economy with good access to essential services, including a resilient, high quality and affordable supply of water.	Implementation of the drought permit would increase the resilience of the water supply to Bristol Water's customers in a drought. This will contribute to the maintenance of a sustainable economy at the local to regional scale. There are no identified adverse environmental effects regarding this objective.	Medium	Medium	Short	Temporary	Low (beneficial)	Medium	None	Minor beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, to domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	There would be no additional infrastructure required to implement the drought permit. There would be no abstraction above the present level. There would be no additional resource use, or waste generated, as a result of the drought permit.	N/a	N/a	N/a	N/a	N/a	N/a	N/a	N/a
	3.2 To promote and secure the efficient and sustainable use of water to ensure resilient water supplies for people and businesses.	No opportunities to promote the sustainable use of water or other natural resources are directly associated with this drought permit.	N/a	N/a	N/a	N/a	N/a	N/a	N/a	N/a
Water	4.1 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats.	The drought permit would result in any reduction in groundwater levels. Implementation of the drought permit would result in reductions in flow of the River Yeo and River Axe, decreasing with distance from Cheddar Reservoir. Flow reductions are expected to be major in the River Yeo, between 33% and 50% (considered high magnitude) in the uppermost impacted reach (first 2.4km downstream of the reservoir) and between 25% and 34% (considered high magnitude) in the next 7.1km of the River Yeo to the River Axe confluence. Minor effects are identified for the River Axe with reductions of flow of between 15% and 17% (considered low magnitude) from the (River Yeo confluence to the tidal limit at Brean (9.5km). Due to the geomorphological and highly modified nature of these river reaches, it is not anticipated that the river channel wetted width or depth will be affected. The drought permit would only be implemented in periods of drought when the river levels and flows would already be below normal levels.	Medium	High	Short	Temporary	Medium (adverse) Low (beneficial)	Low	Moderate adverse	Minor beneficial

Topic	SEA Objective	Potential residual effect on sensitive receptors (assuming good practice construction methods)	Scale of effect: (small/ medium/ large)	Certainty of effect (Low/ Medium/ High)	Duration (Short/ Medium/ Long)	Permanence of effect (Permanent/ temporary)	Magnitude of Effect (Low/ Medium/ High)	Value/ sensitivity of receptor (Low/ Medium/ High)	Residual Adverse Effect	Residual Beneficial Effect
		Implementation of the drought permit would result in minor beneficial effects on the water levels at Cheddar Reservoir, with water levels being held higher for longer. The impacts would be temporary and reversible.								
	4.2 To protect and enhance surface and groundwater quality and protect and enhance estuarine waterbodies.	The drought permit would not result in any adverse effects on groundwater quality. Temporary reductions to flow in the River Yeo and River Axe would reduce the dilution capacity of the rivers and result in adverse effects on water quality. The drought permit would result in medium risks regarding soluble reactive phosphorous (e.g. relating to a sewage treatment works discharge) and negligible risks regarding dissolved oxygen and ammonia. Implementation of the drought permit would not result in any reduction in water pollution.	Medium	Medium	Short	Temporary	Low (adverse)	Medium	Minor adverse	None
	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.	The drought permit has the potential to affect river ecosystem function by temporarily reducing the flows in the River Yeo. No other abstractions have been identified on the impacted watercourses.	Small	Medium	Short	Temporary	Low (adverse)	Medium	Minor adverse	None
Soil, geology and land use	5.1 To protect and enhance geology, geomorphology, and the quality and quantity of soils.	Banwell Ochre Caves SSSI, Banwell Caves SSSI and Bleadon Hill SSSI are designated for their geological value. The drought permit would not result in adverse effects to these designated sites. Implementation of the drought permit could result in low magnitude impacts (with some uncertainty) on the fluvial geomorphology in the River Yeo and River Axe (decreasing with magnitude with distance downstream from Cheddar Reservoir) associated with a reduction in sediment dynamics through reductions in flow velocity. The drought permit would not affect soil quality.	Small	Medium	Short	Temporary	Low (adverse)	Medium	Minor adverse	None
Air and climate	6.1 To reduce air pollutant emissions.	There is no construction associated with this drought permit. Implementation of the drought permit would not result in additional emissions to the atmosphere.	N/a	N/a	N/a	N/a	N/a	N/a	N/a	N/a
	6.2 To reduce greenhouse gas emissions	There is no construction associated with this drought permit. Implementation of the drought permit would not result in an increase in greenhouse gas emissions over and above that which would be produced to supply an equivalent quantity of water in non-drought conditions.	N/a	N/a	N/a	N/a	N/a	N/a	N/a	N/a
	6.3 To adapt and improve resilience to the threats of climate change.	The drought permit is temporary in nature and will not result in any improvement in long-term resilience to the impacts of climate change nor have any adverse effects on climate change resilience.	Medium	High	Short	Temporary	Medium (beneficial)	Medium	None	Moderate beneficial
Archaeology and cultural heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings	There are no heritage assets within the hydrological zone of influence that would be affected by implementation of the drought permit.	N/a	N/a	N/a	N/a	N/a	N/a	N/a	N/a

Topic	SEA Objective	Potential residual effect on sensitive receptors (assuming good practice construction methods)	Scale of effect: (small/ medium/ large)	Certainty of effect (Low/ Medium/ High)	Duration (Short/ Medium/ Long)	Permanence of effect (Permanent/ temporary)	Magnitude of Effect (Low/ Medium/ High)	Value/ sensitivity of receptor (Low/ Medium/ High)	Residual Adverse Effect	Residual Beneficial Effect
	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,	The northern reaches of the hydrological zone of influence fall within the Mendip Hills AONB. Decreased flows within the River Yeo may affect the setting of the AONB, however, due to the geomorphological and highly modified nature of affected reaches, it is not anticipated that the river channel wetted width or depth will be affected. Therefore, the magnitude of effects is considered low. No adverse effects are anticipated on any other landscapes including sites designated in part for their aesthetic value (Rodney Stoke NNR, Sladers Leigh LNR, Berrow Dunes LNR and Uphill LNR). Implementation of the drought permit would help to preserve water levels within Cheddar Reservoir, potentially helping to maintain the setting of the Mendip Hills AONB during drought periods.	Medium	Low	Short	Temporary	Low (adverse) Low (beneficial)	High	Moderate adverse	Moderate beneficial

P05R temporary licence variation drought permit

Topic	SEA Objective	Potential residual effect on sensitive receptors (assuming good practice construction methods)	Scale of effect : (Small/ Medium/ Large)	Certainty of effect (Low/ Medium/ High)	Duration (Short/ Medium/ Long)	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, Flora and Fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species and to enhance natural capital.	The HRA Screening determined likely significant effects on the North Somerset and Mendip Bats SAC, due to the potential impacts on bat foraging habitat, and to the Severn Estuary Ramsar site, due to potential impacts on a population of European eel. Implementation of the drought permit is likely to reduce flows in the River Kenn from close to the source of the river to the tidal sluice at North End (~8km) due to a reduction in groundwater contribution to river flow. Any flow reduction is likely to be limited to impacts on river flow velocities due to the management of water level by weirs and other in-channel control structures in the impacted river reach. The flow velocity impacts could result in moderate adverse effects to fish and invertebrates and minor effects to macrophytes. These effects may continue after the drought permit implementation period while groundwater levels recover and then subsequently flows in the river recover. The potential for effects on Tickenham, Nailsea and Kenn Moors SSSI at the downstream end of the hydrological influence are considered limited due to the distance from the abstraction point and its relative lack of hydrological connection to the River Chelvey. Impacts on the Bucklands Pool/Backwell Lake LNR, which lies adjacent to the River Kenn, are considered minor in the context of the baseline conditions of a severe drought.	Small	Low	Medium	Temporary	Medium (adverse)	High	Major adverse	None
	1.2 To avoid introducing or spreading INNS	The drought permit would not result in the hydrological connection of any areas that would not otherwise be connected. It is therefore not anticipated that there would be any further introduction of invasive non-native species (INNS). However, the drought permit could potentially increase the distribution of any existing INNS due to the reductions in flow velocities. No beneficial effects on the control of INNS are identified.	Small	Low	Medium	Temporary	Low	Medium	Minor adverse	None
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).	Implementation of the drought permit will help to secure essential water supplies for Bristol Water's customers and help to maintain public health and well-being.	Small	Medium	Short	Temporary	Low (beneficial)	Medium	Negligible adverse	Minor Beneficial
	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).	Impacts on amenity and aesthetics associated with public access in the area along the River Kenn are assessed as minor. There may be medium-term adverse effects on angling due to the potential for adverse effects to resident fish populations which would require time to recover after the end of the drought.	Small	Low	Medium	Temporary	Medium (adverse)	Low	Minor adverse	None
	2.3 To promote a sustainable economy with good access to essential services, including a	Implementation of the drought permit would increase the resilience of the water supply to Bristol Water's customers in a drought. This will contribute to the	Medium	Medium	Short	Temporary	Low (beneficial)	Medium	None	Minor beneficial

Topic	SEA Objective	Potential residual effect on sensitive receptors (assuming good practice construction methods)	Scale of effect : (Small/ Medium/ Large)	Certainty of effect (Low/ Medium/ High)	Duration (Short/ Medium/ Long)	Permanence of effect (Permanent/ temporary)	Magnitude of Effect (Low/ Medium/ High)	Value/ sensitivity of receptor (Low/ Medium/ High)	Residual Adverse Effect	Residual Beneficial Effect
	resilient, high quality and affordable supply of water.	maintenance of a sustainable economy at the local to regional scale. There are no identified adverse environmental effects regarding this objective								
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.	The temporary licence variation does not require construction, and therefore there will be no additional resource use associated with its implementation. Implementation of the drought permit will not result in significant additional resource use or waste generation above present levels, noting the small scale of additional abstraction and associated treatment. As a result, adverse impacts are considered negligible.	Small	Medium	Short	Temporary	Low (adverse)	Low	Negligible adverse	None
	3.2 To promote and secure the efficient and sustainable use of water to ensure resilient water supplies for people and businesses.	No opportunities to promote the sustainable use of water or other natural resources are directly associated with this drought permit.	N/a	N/a	N/a	N/a	N/a	N/a	N/a	N/a
Water	4.1 To avoid adverse impacts on surface and groundwater levels and flows, including when this impacts on habitats.	The drought permit would lead to increased drawdown of local groundwater levels relative to the position without the drought permit in place. The abstraction is at the centre of a Source Protection Zone (SPZ) covering some of the Bristol Triassic WFD groundwater water body and Bristol Airport Carboniferous Limestone WFD groundwater water body. The drought permit could lead to the potential for minor (temporary and local) impacts on the water balance of the groundwater body but negligible effects on saline intrusion risk or any groundwater dependant terrestrial ecosystems. Flows from the River Kenn are fed by the Bristol Triassic groundwater body, The drought permit is likely to reduce flows within the River Kenn from close to its source to the tidal sluice at North End due to a reduction in groundwater contribution to river flow. Effects on flow are considered to of medium magnitude and will affect river velocities only due to the management of river water level by weirs and other in-river control structures. The drought permit would only be implemented in drought conditions when the flow in the river at Kenn Gauge would likely already be substantially below normal levels. The effects would be short term in duration.	Medium	Low	Medium	Temporary	Medium (adverse)	Medium	Moderate adverse	None
	4.2 To protect and enhance surface and groundwater quality and protect and enhance estuarine waterbodies.	No adverse effects on groundwater quality are anticipated. The abstraction is at the centre of a SPZ covering some of the Bristol Triassic WFD groundwater water body and Bristol Airport Carboniferous Limestone WFD groundwater water body. The drought permit would have negligible risks on saline intrusion to the groundwater body. There would however be water quality changes to the River Kenn arising from a change in the groundwater flow contribution and subsequent reduced dilution capacity of the river to diffuse pollution.	Medium	Low	Medium	Temporary	Medium (adverse)	Medium	Moderate adverse	None
	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.	The drought permit has the potential to affect river ecosystem function, as less water will be available within the River Kenn.	Medium	Low	Medium	Temporary	Medium (adverse)	Medium	Moderate adverse	None

Topic	SEA Objective	Potential residual effect on sensitive receptors (assuming good practice construction methods)	Scale of effect : (Small/ Medium/ Large)	Certainty of effect (Low/ Medium/ High)	Duration (Short/ Medium/ Long)	Permanence of effect (Permanent/ temporary)	Magnitude of Effect (Low/ Medium/ High)	Value/ sensitivity of receptor (Low/ Medium/ High)	Residual Adverse Effect	Residual Beneficial Effect
Soils, geology and land use	5.1 To protect and enhance geology, geomorphology and the quality and quantity of soils.	There are two sites that are partially designated for their geological value in the zone of influence (Kenn Church, Kenn Pier & Yew Tree Farm SSSI and Tickenham, Nailsea and Kenn Moors SSSI). The drought permit is not anticipated to affect the geological value of these sites. The potential effects of reduce river flow on the fluvial geomorphology of the River Kenn are minor. There would be no effects on soil quality.	Small	Low	Medium	Temporary	Medium (adverse)	Low	Minor adverse	None
Air and climate	6.1 To reduce air pollutant emissions.	There is no construction associated with the drought permit. Implementation would not increase or reduce air pollutant emissions to local areas.	N/a	N/a	N/a	N/a	N/a	N/a	N/a	N/a
	6.2 To reduce greenhouse gas emissions.	There would be no construction associated with the drought permit. There would be a small increase in abstraction, pumping and water treatment associated with the 2.2Ml/d supply provided by the drought permit. This is considered to have a negligible effect on greenhouse gas emissions.	Small	Medium	Short	Temporary	Low (adverse)	Medium	Negligible adverse	None
	6.3 To adapt and improve resilience to the current and future threats of climate change.	The drought permit is temporary in nature and will not result in any improvement in long-term resilience to the impacts of climate change nor have any adverse effects on climate change resilience.	N/a	N/a	N/a	N/a	N/a	N/a	N/a	N/a
Archaeology and cultural heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites	No additional infrastructure is required for the drought permit and there will be no construction requirements that would potentially affect heritage assets. There are a number of heritage assets within the hydrological zone of influence, including Elms Colliery Scheduled Monument. These assets are not dependent on the hydrology of the River Kenn and will not be impacted by the drought permit. There are no (known) water-dependent palaeo-environmental features that could be affected by the implementation of the drought permit.	Small	Low	Medium	Temporary	Low (adverse)	Medium	Negligible adverse	None
Landscape and visual amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	No areas within the hydrological zone of influence fall within sites designated for their landscape value. No landscapes, designated or undesignated, are anticipated to be impacted. Adverse effects on landscape value due to reduced river flows are considered to be negligible as the drought permit effects are limited to a reduction to river velocities due to the management of river water level by weirs and other in-channel control structures.	Small	Low	Medium	Temporary	Low (adverse)	Low	Negligible adverse	None

P08R temporary licence variation drought permit

Topic	SEA Objective	Potential residual effect on sensitive receptors (assuming good practice construction methods)	Scale of effect : (small/ medium/ large)	Certainty of effect (Low/ Medium/ High)	Duration (Short/ Medium/ Long)	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, Flora and Fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species and to enhance natural capital.	The HRA Screening determined likely significant effects on the Severn Estuary SAC and Ramsar site due to the presence of, designated European eel and river lamprey species within the affected river reach. Implementation of the drought permit is likely to lower water levels and river flow within the Ozleworth Brook from its source and downstream to the confluence with the River Little Avon, and then downstream in the Little Avon to the tidal sluice due to a reduction in groundwater contribution to the watercourses due to the increased abstraction. The river flow reduction could result in a moderate impact to resident fish and invertebrates and a minor impact to macrophytes within the Ozleworth Brook and Little Avon. There are a number of areas of Ancient Woodland and several SSSIs (including Box SSSI) in proximity to the zone of hydrological/hydrogeological influences. However, these are not considered sensitive to the hydrological effects associated with the drought permit.	Medium	Low	Short	Temporary	Medium (adverse)	High	Major adverse	Negligible beneficial
	1.2 To avoid introducing or spreading INNS	The drought permit would not result in the hydrological connection of any areas that would not otherwise be connected. It is therefore not anticipated that there would be any further introduction of invasive non-native species (INNS). The drought permit is not expected to increase the distribution of existing INNS. No beneficial effects on the control of INNS are identified.	Small	Low	Short	Temporary	Low (adverse)	Low	Negligible adverse	None
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).	Implementation of the drought permit will help to secure essential water supplies for Bristol Water's customers and help to maintain public health and well-being	Small	Low	Short	Temporary	Low (beneficial)	Medium	Negligible adverse	Minor Beneficial
	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).	Implementation of the drought permit would affect river water level and flow within the Ozleworth Brook from its source until the confluence the Little Avon and within the Little Avon to the tidal sluice. This could result in a temporary reduction in the recreation and amenity value of the watercourse. These effects would be short term in duration. There may be medium-term impacts for angling, as potential adverse effects to resident fish populations would require time to recover.	Medium	Low	Short	Temporary	Medium (adverse)	Medium	Moderate adverse	None
	2.3 To promote a sustainable economy with good access to essential services, including a resilient, high quality and affordable supply of water.	Implementation of the drought permit would increase the resilience of the water supply to Bristol Water's customers in a drought. This will contribute to the maintenance of a sustainable economy at the local to regional scale. There are no identified adverse environmental effects regarding this objective	Medium	Medium	Short	Temporary	Low (beneficial)	Medium	None	Minor beneficial
Material assets and	3.1 To reduce, and make more efficient, the domestic industrial and commercial consumption	The drought permit does not require construction, and therefore there will be no additional resource use associated with its implementation.	Small	Medium	Short	Temporary	Low (adverse)	Low	None	None

Topic	SEA Objective	Potential residual effect on sensitive receptors (assuming good practice construction methods)	Scale of effect : (small/ medium/ large)	Certainty of effect (Low/ Medium/ High)	Duration (Short/ Medium/ Long)	Permanence of effect (Permanent/ temporary)	Magnitude of Effect (Low/ Medium/ High)	Value/ sensitivity of receptor (Low/ Medium/ High)	Residual Adverse Effect	Residual Beneficial Effect
resource use	of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Implementation of the drought permit will not result in significant additional resource use or waste generation above present levels noting the small scale of additional abstraction and associated treatment.								
	3.2 To promote and secure the efficient and sustainable use of water to ensure resilient water supplies for people and businesses.	No opportunities to promote the sustainable use of water or other natural resources are directly associated with this drought permit.	N/a	N/a	N/a	N/a	N/a	N/a	N/a	N/a
Water	4.1 To avoid adverse impacts on surface and groundwater levels and flows, including when this impacts on habitats.	The permit will result in reduced river water levels and flows in the Ozleworth Brook from its source downstream to the confluence with the River Little Avon, and then downstream within the Little Avon to the tidal sluice. There will be a moderate impact on the 'Ozelworth Bk – source to conf. Little Avon R' WFD waterbody. There will also be a moderate temporary impact to the water balance of the WFD groundwater body.	Medium	Low	Medium	Temporary	Medium (adverse)	Medium	Moderate adverse	None
	4.2 To protect and enhance surface and groundwater quality and protect and enhance estuarine waterbodies.	No adverse effects on groundwater quality are anticipated. The drought permit will lead to a risk of adverse water quality changes in the Ozleworth Brook and, to a lesser extent, in the River Little Avon due to reduced dilution capacity of the river to diffuse pollution. There would be a minor (temporary and local) impact to water balance within the Wells groundwater, not significant in the context the WFD waterbody.	Small	Low	Short	Temporary	Low	High	Negligible adverse	Negligible Beneficial
	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.	The drought permit has the potential to negatively impact upon river ecosystem function, as less water will be available within the watercourses.	Medium	Low	Short	Temporary	Medium (adverse)	Low	Minor adverse	None
Soils, geology and land use	5.1 To protect and enhance geology, geomorphology and the quality and quantity of soils.	There are no sites designated for their geological value in the hydrological and hydrogeological zone of influence. Implementation of the drought permit could result in effects of a minor magnitude on the fluvial geomorphology of the Ozleworth Brook and the Little Avon. The drought permit will not affect soil quality.	Small	Low	Short	Temporary	Medium (adverse)	Low	Minor adverse	None
Air and climate	6.1 To reduce air pollutant emissions.	Implementation of the licence variation would not result in additional emission to the atmosphere.	N/a	N/a	N/a	N/a	N/a	N/a	N/a	N/a
	6.2 To reduce greenhouse gas emissions.	There would be no construction associated with the drought permit. There would be a small increase in abstraction, pumping and water treatment associated with the 2Ml/d additional supply leading to a minor adverse effect on greenhouse gas emissions.	Small	Medium	Short	Temporary	Low (adverse)	Medium	Minor adverse	None
	6.3 To adapt and improve resilience to the present	The drought permit is temporary in nature and will not result in any improvement in long-term resilience to the impacts of climate change nor have any adverse effects on climate change resilience.	N/a	N/a	N/a	N/a	N/a	N/a	N/a	N/a

Topic	SEA Objective	Potential residual effect on sensitive receptors (assuming good practice construction methods)	Scale of effect : (small/ medium/ large)	Certainty of effect (Low/ Medium/ High)	Duration (Short/ Medium/ Long)	Permanence of effect (Permanent/ temporary)	Magnitude of Effect (Low/ Medium/ High)	Value/ sensitivity of receptor (Low/ Medium/ High)	Residual Adverse Effect	Residual Beneficial Effect
	and future 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	There are a number of heritage assets in proximity to the zone of hydrological influence including Damery Camp Scheduled Monument, Berkeley Castle Registered Park and Garden and Berkley Conservation Area. Relative to baseline conditions during a drought (significantly reduced flow when compared to normal conditions) the implementation of the drought permit is not anticipated to result in any significant adverse effects to these heritage assets. The Little Avon flows through Berkeley Castle Registered Park and Garden and this could lead to temporary, short duration moderate adverse effects regarding the visual amenity/setting of the Park associated with lower river levels. There are no (known) water-dependent palaeo-environmental features that could be affected by the implementation of the drought permit.	Small	Low	Short	Temporary	Low (adverse)	High	Moderate adverse	None
Landscape and visual amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	The eastern reaches of the hydrological zone of influence (~9km) fall within the Cotswolds AONB. The drought permit will result in lower river levels in the Ozleworth Brook and the Little Avon leading to moderate adverse effects on the setting of the AONB. No other landscapes, either designated or undesignated, are anticipated to be affected.	Medium	Low	Short	Temporary	Low (adverse)	High	Moderate adverse	None

River Axe licence variation drought permit

Topic	SEA Objective	Potential residual effect on sensitive receptors (assuming good practice construction methods)	Scale of effect : (Small/ Medium/ Large)	Certainty of effect (Low/ Medium/ High)	Duration (Short/ Medium/ Long)	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, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species and to enhance natural capital.	HRA Screening concluded that there are likely significant effects on the North Somerset and Mendip Bats SAC and Mendip Grassland SAC due to potential adverse impacts to bat foraging habitats, and on the Severn Estuary Ramsar site due to the presence of designated European eel in the impacted river reach. The drought permit will have minor beneficial effects by helping to maintain water levels in Cheddar Reservoir which is a SSSI and designated for its overwintering bird community. Purn Hill SSSI, Shiplate Slait SSSI, Crook Peak to Shute Shelve Hill SSSI and Shiplate Wood Ancient Woodland are all located within 500m of the hydrological zone of influence of the drought permit, but no adverse effects are anticipated. Implementation of the drought permit could result reductions in flow and water levels in the River Axe between the Axbridge abstraction location and the Brean Cross Sluice during the months of May and October. The drought permit could result in moderate adverse effects to fish (including Eel) and aquatic macroinvertebrates and minor effects to macrophytes but these effects will not be long lasting, and the magnitude of impact is constrained by the minimum flow requirements set out in the abstraction licence which are not changed by the drought permit.	Medium	Low	Short	Temporary	Medium (adverse)	High	Major adverse	Minor beneficial
	1.2 To avoid introducing or spreading INNS.	The drought permit would not result in the hydrological connection of any areas that would not otherwise be connected. It is therefore not anticipated that there would be any further introduction of invasive non-native species (INNS). The drought permit is not expected to increase the distribution of existing INNS. No beneficial effects on the control of INNS are identified.	Small	Medium	Short	Temporary	Low (adverse)	Low	Negligible adverse	Negligible beneficial
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).	Implementation of the drought permit will help to secure essential water supplies for Bristol Water's customers and help to maintain public health and well-being.	Medium	Medium	Short	Temporary	Low (beneficial)	Medium	Negligible adverse	Minor Beneficial
	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).	The potential for reduced river levels and flows could result in temporary negligible adverse effects to the recreational and amenity value of the river Axe during the months of May and October. During a period of drought, the River Axe would naturally be low and, due to the geomorphological and highly modified nature of the watercourses, limited effects to wetted width or depth are anticipated, and therefore effects on recreation and amenity value are expected to be minimal.	Medium	Medium	Medium	Temporary	Low (adverse)	Medium	Negligible adverse	None

Topic	SEA Objective	Potential residual effect on sensitive receptors (assuming good practice construction methods)	Scale of effect : (Small/ Medium/ Large)	Certainty of effect (Low/ Medium/ High)	Duration (Short/ Medium/ Long)	Permanence of effect (Permanent/ temporary)	Magnitude of Effect (Low/ Medium/ High)	Value/ sensitivity of receptor (Low/ Medium/ High)	Residual Adverse Effect	Residual Beneficial Effect
	2.3 To promote a sustainable economy with good access to essential services, including a resilient, high quality and affordable supply of water.	Implementation of the drought permit would increase the resilience of the water supply to Bristol Water's customers in a drought. This will contribute to the maintenance of a sustainable economy at the local to regional scale. There are no identified adverse environmental effects regarding this objective.	Medium	Medium	Short	Temporary	Low (beneficial)	Medium	None	Minor beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, to domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	The drought permit would not require additional infrastructure. There would be no additional infrastructure required as a result of the implementation of the drought permit. Implementation of the drought permit will not result in significant additional resource use or waste generation above present levels noting it involves the extension of the period of abstraction by two months to include May and October (the period of abstraction will be temporarily extended from November – April, to October to May).	Small	Medium	Short	Temporary	Low (adverse)	Low	Negligible adverse	None
	3.2 To promote and secure the efficient and sustainable use of water to ensure resilient water supplies for people and businesses.	No opportunities to promote the sustainable use of water or other natural resources are directly associated with this drought permit.	N/a	N/a	N/a	N/a	N/a	N/a	N/a	N/a
Water	4.1 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats.	The drought permit will not result in any reduction in groundwater levels. Implementation of the drought permit involves the extension of the period of abstraction by two months to include May and October and an increase in the annual abstraction volume from 4750Ml/year to 7145Ml/year (increase of 2395Ml/year). The drought permit will lead to moderate adverse effects on water levels and flow in the River Axe between the Axbridge abstraction location and the Brean Cross Sluice (~15km). However, these effects would not be long lasting, and the magnitude of the impacts will be restricted by the minimum flow requirements in the abstraction licence which remain in place under the drought permit. Implementation of the drought permit would result in minor beneficial effects on the water levels in Cheddar Reservoir, with water levels being held higher for longer.	Medium	Low	Short	Temporary	Medium (adverse) Low (beneficial)	Medium	Moderate adverse	Minor beneficial
	4.2 To protect and enhance surface and groundwater quality and protect and enhance estuarine waterbodies.	The drought permit will not result in any impacts to groundwater quality. Implementation of the drought permit would result in temporary reduced flow in the River Axe, reducing the dilution capacity of the river to diffuse pollution pressures. However, the drought permit only covers the 2 months of May and October, and therefore the potential for adverse effects on water quality are limited. Implementation of the drought permit would not result in a reduction in water pollution.	Medium	Low	Short	Temporary	Low (adverse)	Low	Negligible adverse	None
	4.3 To ensure appropriate and sustainable management of abstractions to maintain water supplies whilst	The drought permit has the potential to affect river ecosystem function by temporarily reducing the flow in the River Axe. Considering the drought permit only involves the extension of the period of the existing abstraction by two months to include May and October, the potential	Small	Low	Short	Temporary	Low (adverse)	Low	Negligible adverse	None

Topic	SEA Objective	Potential residual effect on sensitive receptors (assuming good practice construction methods)	Scale of effect : (Small/ Medium/ Large)	Certainty of effect (Low/ Medium/ High)	Duration (Short/ Medium/ Long)	Permanence of effect (Permanent/ temporary)	Magnitude of Effect (Low/ Medium/ High)	Value/ sensitivity of receptor (Low/ Medium/ High)	Residual Adverse Effect	Residual Beneficial Effect
	protecting ecosystem functions and services that rely on water resources.	for any adverse effects on other existing abstractions is assessed as negligible.								
Soil, geology and land use	5.1 To protect and enhance geology, geomorphology, and the quality and quantity of soils.	Banwell Ochre Caves SSSI, Banwell Caves SSSI and Bleadon Hill SSSI are designated for their geological value. The drought permit would not result in adverse effects to any of these designated sites. Implementation of the drought permit could result in minor adverse effects on the fluvial geomorphology of the River Axe (decreasing with magnitude with distance downstream). The drought permit would not affect soil quality.	Small	Low	Short	Temporary	Low (adverse)	Low	Minor adverse	None
Air and climate	6.1 To reduce air pollutant emissions.	There is no construction associated with the drought permit. Implementation of the drought permit would not increase or reduce air pollutant emissions to local areas.	N/a	N/a	N/a	N/a	N/a	N/a	N/a	N/a
	6.2 To reduce greenhouse gas emissions	There would be no construction associated with the drought permit. There would be a small increase in abstraction, pumping and water treatment associated with the 2.2Ml/d additional supply which will have a minor adverse effect on greenhouse gas emissions.	Small	Medium	Short	Temporary	Low (adverse)	Medium	Minor adverse	None
	6.3 To adapt and improve resilience to the threats of climate change.	The drought permit is temporary in nature and will not result in any improvement in long-term resilience to the impacts of climate change nor have any adverse effects on climate change resilience.	N/a	N/a	N/a	N/a	N/a	N/a	N/a	N/a
Archaeology and cultural heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	There are no heritage assets within the hydrological zone of influence that would be impacted as a result of implementation of the drought permit.	N/a	N/a	N/a	N/a	N/a	N/a	N/a	N/a
Landscape and visual amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside,	The River Axe flows within 500m of the Mendip Hills AONB. Reduced flows and levels in the River Axe may affect the setting of the AONB and surrounding area. However, due to the geomorphological and highly modified nature of the affected river reaches, the magnitude of impact on the landscape setting is assessed as low. No other landscapes, either designated or undesignated, are anticipated to be affected. The drought permit will have moderate beneficial effects by helping to maintain water levels in Cheddar Reservoir which is located in proximity to the boundary of the Mendip Hills AONB.	Medium	Low	Short	Temporary	Low (adverse) Low (beneficial)	High	Moderate adverse	Moderate beneficial


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