

**NW Drought Plan 2027
Strategic Environmental
Assessment (SEA)
Environmental Report:
Appendix F –
Assessment of Drought
Plan Actions**

June 2026

NW DROUGHT PLAN 2027

SEA ENVIRONMENTAL REPORT: APPENDIX F – ASSESSMENT OF DROUGHT PLAN ACTIONS

DOCUMENT CONTROL SHEET

Report Title:	Northumbrian Water (NW) Drought Plan 2027 Strategic Environmental Assessment (SEA) Environmental Report: Appendix F – Assessment of Drought Plan Actions
Report Author:	Jacobs UK Limited on behalf of NWG Water Resources Team
Distribution List:	<u>Internal:</u> Water Resources & Supply Strategy Manager Water Resources Project File <u>External:</u> Environment Agency, Natural England and Historic England
Filename:	NW Draft Drought Plan - SEA Environmental Report - Appendix F - July 2026

REVISIONS

Version	Report Status	Signed off by	Issue Date
1	Draft		

CITATION

This report should be cited as:

Northumbrian Water (NW) (2026). NW Drought Plan 2027 Strategic Environmental Assessment (SEA) Environmental Report: Appendix F – Assessment of Drought Plan Actions.

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Registered in England & Wales No. 2366703

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1 ASSESSMENT OF DROUGHT PLAN ACTIONS

1.1 Demand-side actions

1.1.1 Leakage Detection and Repair

SEA topic	Proposed SEA objectives	Indicator questions	Potential residual effect on sensitive receptors commentary	Scale of effect	Certainty of effect	Duration of effect	Permanence of effect	Magnitude of effect	Value/ Sensitivity of receptor	Embedded mitigation measures	Additional mitigation measures	Residual adverse effect significance		Residual Beneficial effect significance	
Biodiversity, Flora and Fauna	To protect and enhance biodiversity, ecological functions, capacity and habitat connectivity, including protecting designated sites and their qualifying features, priority species and priority habitats.	- Is the action likely to affect the conservation status of any internationally, nationally or locally designated sites? - Is the action likely to contribute to or conflict with the targets and conservation objectives for designated sites?	Construction activities may result in disturbance to local habitats and species during the works. With the application of embedded mitigation and best practice construction methods, and given that works are mainly within urban settings, the residual impact is considered negligible.	Local	Moderate	Short-term	Temporary	No impact or impact does not affect	Medium	- Application of reasonable and best practice measures/methods; all actions in compliance with all regulatory standards and WFD no deterioration requirements. - Avoid introducing or spreading INNS by following the INNS risk assessment. - Application of Environmental Monitoring Plan (EMP) to support designated sites and sensitive habitats, to ensure no deterioration of WFD water bodies and support RBMP objectives. - Standard operational best practice for short-term works to minimise temporary disturbance (traffic, noise, soils) in predominantly urban locations. - Promote efficient use of existing infrastructure to reduce resource and waste impacts.	- Use of renewable or 'clean' energy sources where practicable. - Application of archaeological watching briefs where excavation takes place in areas of archaeological potential.	0	Neutral	0	Neutral
	To provide opportunities for habitat creation or restoration.	Will the action protect and enhance aquatic habitats and species, including freshwater fisheries?	Action does not provide opportunities for habitat creation or restoration.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To avoid introducing or spreading and, where feasible, manage Invasive Non-Native Species (INNS).	Will the action enhance aquatic, transitional and terrestrial ecosystems?	Construction activities may result in some spreading of Invasive Non-Native Species (INNS). Assuming best practice construction methods, impacts are anticipated to be negligible.	Local	Low	Short-term	Temporary	No impact or impact does not affect	Low			0	Neutral	0	Neutral
	To meet Water Framework Directive (WFD) objectives relating to biodiversity and targets and conservation objectives of designated sites.	- Does the action provide opportunities for habitat creation or restoration? - Is the action likely to affect ancient woodland, Section 41 of the NERC act habitats and species of principal importance for the purpose of conserving biodiversity? - Will the action affect any habitats that support legally protected species or species of conservation concern? - Is there a possibility for INNS to be spread/introduced or for algal blooms to occur?	The reduction in water lost through leakage will result in reduced requirement for abstraction at source and therefore, potential for beneficial impacts on flow and sensitive habitats/species. Therefore, aligning with no-deterioration and supporting good ecological status/potential.	Regional	Moderate	Long-term	Permanent	Low enhancement	Medium			0	Neutral	+	Minor beneficial
Water	To maintain the quality of surface water and groundwater bodies, including meeting WFD objectives for water chemistry and supporting the objectives of groundwater-dependent sites.	- Will the action affect surface water quality or quantity? - Will the action affect ground water quality or quantity? - Is the action likely to contribute to or conflict with the achievement of WFD objectives?	Action does not affect the quality of water.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To maintain surface water and groundwater flows and quantity.	- Will the action affect wetlands and Groundwater Dependent Terrestrial Ecosystems? - Will the action affect raw water quality?	The reduction in water lost through leakage will result in reduced requirement for abstraction at source and therefore, potential for beneficial impacts on flow.	Regional	Moderate	Long-term	Permanent	Low enhancement	Medium			0	Neutral	+	Minor beneficial
	To meet WFD objectives and support the achievement of environmental objectives set out in River Basin Management Plans (RBMPs).	- Will the action comply with flow targets? - Does the action provide a reliable and sustainable water	Action does not directly support WFD nor RBMP objectives. However, potential in increased flow due to lower abstraction at source may have a beneficial effect on water environment.	Regional	Moderate	Long-term	Permanent	Low enhancement	Medium			0	Neutral	+	Minor beneficial

SEA topic	Proposed SEA objectives	Indicator questions	Potential residual effect on sensitive receptors commentary	Scale of effect	Certainty of effect	Duration of effect	Permanence of effect	Magnitude of effect	Value/ Sensitivity of receptor	Embedded mitigation measures	Additional mitigation measures	Residual adverse effect significance		Residual Beneficial effect significance	
	To increase water efficiency and increase resilience of water supplies and natural systems to droughts.	supply which meets changing demand? ▪ Will the action protect and enhance the environmental resilience of the water environment to drought?	Leakage reduction decreases abstraction demand and helps maintain water availability during drought conditions. Maintaining flows reduces ecological stress. The effect is indirect but contributes positively to system resilience.	Regional	High	Long-term	Permanent	Low enhancement	Low			0	Neutral	+	Minor beneficial
Soil	To protect geological and geomorphological features, and the functionality and quality of soils, including the protection of high-grade agricultural land.	▪ Will the action affect high grade agricultural land? ▪ Will the action prevent soil erosion and retain soil stocks as a natural resource? ▪ Is the action likely to affect geodiversity, including Sites of Special Scientific Interest (SSSIs) of geological importance?	Construction activities may result in localised disturbance to soils. However, repair activity will be on pipelines which are already in use.	Local	High	Short-term	Temporary	Low loss/change	Medium			-	Minor adverse	0	Neutral
Air	To reduce and minimise air emissions during operation.	▪ Is the action in an Air Quality Management Area (AQMA)? ▪ Will the action affect local air quality?	Emissions related to vehicle trips will affect air quality; however, majority of NW supply area sits outside of AQMA areas.	Local	Moderate	Short-term	Temporary	Low loss/change	Low			-	Minor adverse	0	Neutral
Climatic factors	To minimise or reduce embodied and operational carbon and greenhouse gas emissions.	▪ Will the action affect carbon or other greenhouse gas emissions? ▪ Does the action include measures to improve resilience to climate change and drought? ▪ Will the action create catchment resilience to drought?	Leakage detection and repair require vehicle movements that generate short-term greenhouse gas emissions. However, these are offset over time by reduced water losses, which reduce the energy required for abstraction, treatment and pumping. Overall, the net effect is considered negligible.	Regional	High	Short-term	Temporary	No impact or impact does not affect	Low			0	Neutral	0	Neutral
	To introduce climate mitigation where required and improve the climate resilience of assets and natural systems to the threats of climate change.		Action does not introduce climate mitigation and resilience of assets.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Population and human health	To maintain the health and wellbeing of the local community, including economic and social wellbeing.	▪ Does the action promote water efficiency and encourage a reduction in water consumption? ▪ Will the action secure resilient water supplies for the health and wellbeing of customers?	The drought action helps maintain service levels by providing water that would otherwise be lost through leakage.	Local	Moderate	Long-term	Permanent	Medium enhancement	Low			0	Neutral	+	Minor beneficial
	To secure resilient, high quality, sustainable and affordable water supplies over the long term for the health and wellbeing of the community.	▪ Will the action enhance public awareness, engagement or understanding of the natural environment?	Action helps maintain supply reliability during droughts, ensuring a dependable supply for customers and supporting economic activity.	Local	Moderate	Long-term	Permanent	Medium enhancement	Low			0	Neutral	+	Minor beneficial
	To connect customers to the natural environment, provide education or information resources for the public.	▪ Will the action maintain or enhance the quality, accessibility and use of the water environment for recreation, tourism and navigation?	Action does not have an effect on providing education or information resources.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To maintain the water environment for other users including recreation, tourism and navigation.		Construction work for leakage detection and repairs may cause temporary noise and traffic disruption. These impacts will be short-lived at each (likely urban) location, and with best-practice construction methods, any disturbance should be minimal. Recreational areas are not expected to be affected.	Local	Moderate	Short-term	Temporary	Low loss/change	Low			-	Minor adverse	0	Neutral
Historic environment	To conserve and protect the historic environment and heritage assets, and their settings, including	▪ Will the action affect designated, non-designated heritage assets of archaeological interest that	Leakage reduction will occur on existing pipelines, so no archaeological or cultural heritage sites are expected to be affected.	Local	Moderate	Short-term	Temporary	No impact or impact does not affect	Low			0	Neutral	0	Neutral

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SEA topic	Proposed SEA objectives	Indicator questions	Potential residual effect on sensitive receptors commentary	Scale of effect	Certainty of effect	Duration of effect	Permanence of effect	Magnitude of effect	Value/ Sensitivity of receptor	Embedded mitigation measures	Additional mitigation measures	Residual adverse effect significance		Residual Beneficial effect significance	
	archaeologically important sites.	are demonstrably of equivalent significance to scheduled monuments or other non-designated historic assets? - Will the action affect the setting and/or significance of a historic asset? - Will the action affect archaeology (including unknown archaeology)? - Will the action alter the hydrological conditions of water-dependent heritage assets, including organic remains?	Any short-term impacts on nearby heritage settings are expected to be negligible.												
Landscape	To conserve and protect landscape and townscape character and visual amenity.	- Will the action have an effect on the character of the landscape, townscape or seascape, including tranquillity and views? - Will the action protect and enhance designated landscapes and features?	Most works will occur in urban areas. With best-practice construction methods, construction impacts are expected to be negligible.	Local	Moderate	Short-term	Temporary	No impact or impact does not affect	Low			0	Neutral	0	Neutral
Material assets	To reduce, and make more efficient, the consumption of resources, and minimise the generation of waste.	- Will the action reuse existing infrastructure? - Will the action minimise the use of resources and generation of waste? - Will the action affect other services or assets such as utilities and transport network?	Action will cut the amount of treated water lost from the network, reducing the energy and chemicals needed for treatment. Use of existing infrastructure, though repairs may require some raw materials, which are assumed to be sourced locally.	Regional	Moderate	Long-term	Permanent	Low enhancement	Low			0	Neutral	+	Minor beneficial
	Avoid adverse effects on built assets and infrastructure		Leakage repair activities help avoid adverse effects on built assets and infrastructure. They reduce physical damage, prevent costly failures, and support more resilient urban systems.	Regional	Moderate	Long-term	Permanent	Low enhancement	Low			0	Neutral	+	Minor beneficial

1.1.2 Customer Communications

SEA topic	Proposed SEA objectives	Indicator questions	Potential residual effect on sensitive receptors commentary	Scale of effect	Certainty of effect	Duration of effect	Permanence of effect	Magnitude of effect	Value/ Sensitivity of receptor	Embedded mitigation measures	Additional mitigation measures	Residual adverse effect significance		Residual Beneficial effect significance	
Biodiversity, Flora and Fauna	To protect and enhance biodiversity, ecological functions, capacity and habitat connectivity, including protecting designated sites and their qualifying features, priority species and priority habitats.	- Is the action likely to affect the conservation status of any internationally, nationally or locally designated sites? - Is the action likely to contribute to or conflict with the targets and conservation objectives for designated sites?	Action will not have any adverse effects on biodiversity or designated nature conservation sites. By reducing consumer demand for water, it will lessen the need for abstraction sources, which could benefit flow-sensitive habitats and species.	Local	Low	Short-term	Temporary	Low enhancement	Low	- Application of reasonable and best-practice mitigation measures/methods. - Compliance with regulatory standards and existing operational controls for drought actions. - Use of standard operational best practice. - Application of monitoring proposals, where relevant, to ensure environmental protection.	Use of renewable or 'clean' energy sources where practicable.	0	Neutral	+	Minor beneficial
	To provide opportunities for habitat creation or restoration.	Will the action protect and enhance aquatic habitats and species, including freshwater fisheries?	Action does not provide opportunities for habitat creation or restoration.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To avoid introducing or spreading and, where feasible, manage INNS.	- Will the action enhance aquatic, transitional and terrestrial ecosystems? - Does the action provide opportunities for habitat creation or restoration?	Customer communications will have no impact on avoiding the introduction or spreading of INNS.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To meet WFD objectives relating to biodiversity and targets and conservation objectives of designated sites.	- Is the action likely to affect ancient woodland, Section 41 of the NERC act habitats and species of principal importance for the purpose of conserving biodiversity? - Will the action affect any habitats that support legally protected species or species of conservation concern? - Is there a possibility for INNS to be spread/introduced or for algal blooms to occur?	The reduction in water usage will result in reduced requirement for abstraction at source and therefore, potential for beneficial impacts on flow and sensitive habitats/species. Therefore, aligning with no-deterioration and supporting good ecological status/potential.	Local	Low	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
Water	To maintain the quality of surface water and groundwater bodies, including meeting WFD objectives for water chemistry and supporting the objectives of groundwater-dependent sites.	- Will the action affect surface water quality or quantity? - Will the action affect ground water quality or quantity? - Is the action likely to contribute to or conflict with the achievement of WFD objectives?	Action may reduce the need for abstraction from sources, lessening associated impacts on surface and groundwater quality during drought conditions.	Local	Low	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
	To maintain surface water and groundwater flows and quantity.	- Will the action affect wetlands and Groundwater Dependent Terrestrial Ecosystems? - Will the action affect raw water quality? - Will the action comply with flow targets?	Customer communications are expected to benefit the water environment by lowering consumer demand, which in turn reduces the need for water abstraction, benefitting water flows.	Local	Low	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
	To meet WFD objectives and support the achievement of environmental objectives set out in RBMPs.	- Does the action provide a reliable and sustainable water supply which meets changing demand? - Will the action protect and enhance the environmental resilience of the water environment to drought?	Action does not directly support WFD nor RBMP objectives. However, potential in increased flow due to lower abstraction at source may have a beneficial effect on water environment.	Local	Low	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
	To increase water efficiency and increase resilience of water supplies and natural systems to droughts.		Action does not increase the environmental resilience of the water environment to drought.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral

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Soil	To protect geological and geomorphological features, and the functionality and quality of soils, including the protection of high-grade agricultural land.	- Will the action affect high grade agricultural land? - Will the action prevent soil erosion and retain soil stocks as a natural resource? - Is the action likely to affect geodiversity, including SSSIs of geological importance?	Action will have no impact on geology, geomorphology and quality of soils.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Air	To reduce and minimise air emissions during operation.	- Is the action in an AQMA? - Will the action affect local air quality?	Action will have no impact on air quality.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Climatic factors	To minimise or reduce embodied and operational carbon and greenhouse gas emissions.	- Will the action affect carbon or other greenhouse gas emissions? - Does the action include measures to improve resilience to climate change and drought? - Will the action create catchment resilience to drought?	There is some carbon usage associated with increased customer communications associated with digital communications however these are negligible.	Local	Low	Short-term	Temporary	No impact or impact does not affect	Low			0	Neutral	0	Neutral
	To introduce climate mitigation where required and improve the climate resilience of assets and natural systems to the threats of climate change.		Increased customer communications although temporary encourage efficient water used and change in behaviours contributing to climate mitigation and resilience although these might be negligible.	Local	Low	Long-term	Permanent	No impact or impact does not affect	Low			0	Neutral	0	Neutral
Population and human health	To maintain the health and wellbeing of the local community, including economic and social wellbeing.	- Does the action promote water efficiency and encourage a reduction in water consumption? - Will the action secure resilient water supplies for the health and wellbeing of customers? - Will the action enhance public awareness, engagement or understanding of the natural environment? - Will the action maintain or enhance the quality, accessibility and use of the water environment for recreation, tourism and navigation?	Customer communications promote water efficiency and reduce consumption, supporting supply resilience and public wellbeing. This also raises awareness of the value of water resources. While some minor short-term adverse responses (e.g. resistance to behavioural change or perception of inconvenience) may occur, these are limited and temporary. Overall, the effect is beneficial.	Regional	High	Long-term	Permanent	Medium enhancement	Medium			0	Neutral	+	Moderate beneficial
	To secure resilient, high quality, sustainable and affordable water supplies over the long term for the health and wellbeing of the community.		The action will lead to water savings that help strengthen the region's water supply security, thereby supporting and protecting the health and wellbeing of the community.	Local	Moderate	Long-term	Permanent	Low enhancement	Medium			0	Neutral	+	Minor beneficial
	To connect customers to the natural environment, provide education or information resources for the public.		Customer communications focus on promoting water savings and efficiency in the home and therefore do not provide education or information about the natural environment.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To maintain the water environment for other users including recreation, tourism and navigation.		No impacts on recreation, tourism or navigation are anticipated as a result of this action.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Historic environment	To conserve and protect the historic environment and heritage assets, and their settings, including archaeologically important sites.	- Will the action affect designated, non-designated heritage assets of archaeological interest that are demonstrably of equivalent significance to scheduled monuments or other non-designated historic assets? - Will the action affect the setting and/or significance of a historic asset? - Will the action affect archaeology (including unknown archaeology)?	Action has no direct impact on the historic environment.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral

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		Will the action alter the hydrological conditions of water-dependent heritage assets, including organic remains?													
Landscape	To conserve and protect landscape and townscape character and visual amenity.	- Will the action have an effect on the character of the landscape, townscape or seascape, including tranquillity and views? - Will the action protect and enhance designated landscapes and features?	Action has no direct impact on the landscape.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Material assets	To reduce, and make more efficient, the consumption of resources, and minimise the generation of waste.	- Will the action reuse existing infrastructure? - Will the action minimise the use of resources and generation of waste?	Action will not reduce or make more efficient use of resources.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	Avoid adverse effects on built assets and infrastructure	Will the action affect other services or assets such as utilities and transport network?	No adverse impacts on built assets.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral

1.1.3 Reduction in Pressure

SEA topic	Proposed SEA objectives	Indicator questions	Potential residual effect on sensitive receptors commentary	Scale of effect	Certainty of effect	Duration of effect	Permanence of effect	Magnitude of effect	Value/ Sensitivity of receptor	Embedded mitigation measures	Additional mitigation measures	Residual adverse effect significance		Residual Beneficial effect significance	
Biodiversity, Flora and Fauna	To protect and enhance biodiversity, ecological functions, capacity and habitat connectivity, including protecting designated sites and their qualifying features, priority species and priority habitats.	- Is the action likely to affect the conservation status of any internationally, nationally or locally designated sites? - Is the action likely to contribute to or conflict with the targets and conservation objectives for designated sites?	Lower pressure reduces leakage volumes, meaning less abstraction is required to meet demand. Reduced abstraction helps maintain river flows, groundwater levels and wetland hydrology, benefiting priority habitats and species.	Local	Low	Short-term	Temporary	Low enhancement	Low	- Application of reasonable and best-practice mitigation measures/methods. - Compliance with regulatory standards and existing operational controls for drought actions. - Use of standard operational best practice. - Application of monitoring proposals, where relevant, to ensure environmental protection.	Use of renewable or 'clean' energy sources where practicable.	0	Neutral	+	Minor beneficial
	To provide opportunities for habitat creation or restoration.	Will the action protect and enhance aquatic habitats and species, including freshwater fisheries?	Action does not provide opportunities for habitat creation or restoration.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To avoid introducing or spreading and, where feasible, manage INNS.	Will the action enhance aquatic, transitional and terrestrial ecosystems?	Action will have no impact on avoiding the introduction or spreading of INNS.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To meet WFD objectives relating to biodiversity and targets and conservation objectives of designated sites.	- Does the action provide opportunities for habitat creation or restoration? - Is the action likely to affect ancient woodland, Section 41 of the NERC act habitats and species of principal importance for the purpose of conserving biodiversity? - Will the action affect any habitats that support legally protected species or species of conservation concern? - Is there a possibility for INNS to be spread/introduced or for algal blooms to occur?	Lower abstraction supports ecological status and helps avoid deterioration during dry periods. Reduced bursts also lower the risk of sediment mobilisation or pollution incidents. Alignment with no deterioration objectives and supporting achievement of good status.	Local	Low	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
Water	To maintain the quality of surface water and groundwater bodies, including meeting WFD objectives for water chemistry and supporting the objectives of groundwater-dependent sites.	- Will the action affect surface water quality or quantity? - Will the action affect ground water quality or quantity? - Is the action likely to contribute to or conflict with the achievement of WFD objectives? - Will the action affect wetlands and Groundwater Dependent Terrestrial Ecosystems?	Fewer bursts reduce the risk of mains contamination events and surface water pollution from treated water discharges. Lower leakage reduces groundwater ingress in some areas.	Local	Low	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
	To maintain surface water and groundwater flows and quantity.	- Will the action affect raw water quality? - Will the action comply with flow targets?	Pressure reduction is one of the most effective ways to reduce leakage. Lower leakage reduces the need for abstraction, supporting environmental flows.	Local	Low	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
	To meet WFD objectives and support the achievement of environmental objectives set out in RBMPs.	- Does the action provide a reliable and sustainable water supply which meets changing demand? - Will the action protect and enhance the environmental resilience of the water environment to drought?	Supports flow related elements of WFD. Helps water companies stay within abstraction limits, especially in sensitive catchments.	Local	Low	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
	To increase water efficiency and increase resilience of water supplies and natural systems to droughts.		Lower pressure reduces both leakage and consumption (especially for older fittings). Improves system resilience by reducing peak demand and stabilising supply zones.	Local	Low	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial

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Soil	To protect geological and geomorphological features, and the functionality and quality of soils, including the protection of high-grade agricultural land.	- Will the action affect high grade agricultural land? - Will the action prevent soil erosion and retain soil stocks as a natural resource? - Is the action likely to affect geodiversity, including SSSIs of geological importance?	Reduced bursts mean fewer incidents of soil saturation, erosion, or undermining of embankments and roadbeds but these are anticipated to be negligible.	Local	Low	Short-term	Temporary	No impact or impact does not affect	Low			0	Neutral	0	Neutral
Air	To reduce and minimise air emissions during operation.	- Is the action in an AQMA? - Will the action affect local air quality?	Lower pressure reduces pumping energy demand, leading to small reductions in air pollutant emissions from electricity generation however this effect is anticipated to be negligible.	Local	Low	Short-term	Temporary	No impact or impact does not affect	Low			0	Neutral	0	Neutral
Climatic factors	To minimise or reduce embodied and operational carbon and greenhouse gas emissions.	- Will the action affect carbon or other greenhouse gas emissions? - Does the action include measures to improve resilience to climate change and drought? - Will the action create catchment resilience to drought?	Lower pressure means lower pumping energy and therefore reduced operational carbon emissions.	Local	Low	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
	To introduce climate mitigation where required and improve the climate resilience of assets and natural systems to the threats of climate change.		Action is a temporary measure and therefore does not have an effect on climate mitigation and resilience.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Population and human health	To maintain the health and wellbeing of the local community, including economic and social wellbeing.	- Does the action promote water efficiency and encourage a reduction in water consumption? - Will the action secure resilient water supplies for the health and wellbeing of customers? - Will the action enhance public awareness, engagement or understanding of the natural environment? - Will the action maintain or enhance the quality, accessibility and use of the water environment for recreation, tourism and navigation?	The action supports supply resilience during drought and reduces bursts, leading to fewer service interruptions, road closures and localised flooding. While reduced pressure may result in minor adverse effects for some customers (e.g. in high-rise buildings or network extremities), these are expected to be limited in extent and duration. Overall, the effect is beneficial.	Regional	Moderate	Short-term	Temporary	Low enhancement	Medium			0	Neutral	+	Minor beneficial
	To secure resilient, high quality, sustainable and affordable water supplies over the long term for the health and wellbeing of the community.		Action is a temporary measure and therefore does not have an effect on long term water supply resilience.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To connect customers to the natural environment, provide education or information resources for the public.		Action does not have an effect on providing education or information resources.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To maintain the water environment for other users including recreation, tourism and navigation.		No impacts on recreation, tourism or navigation are anticipated as a result of this action.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Historic environment	To conserve and protect the historic environment and heritage assets, and their settings, including archaeologically important sites.	- Will the action affect designated, non-designated heritage assets of archaeological interest that are demonstrably of equivalent significance to scheduled monuments or other non-designated historic assets? - Will the action affect the setting and/or significance of a historic asset?	Action has no direct impact on the historic environment.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral

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SEA topic	Proposed SEA objectives	Indicator questions	Potential residual effect on sensitive receptors commentary	Scale of effect	Certainty of effect	Duration of effect	Permanence of effect	Magnitude of effect	Value/ Sensitivity of receptor	Embedded mitigation measures	Additional mitigation measures	Residual adverse effect significance		Residual Beneficial effect significance	
		- Will the action affect archaeology (including unknown archaeology)? - Will the action alter the hydrological conditions of water-dependent heritage assets, including organic remains?													
Landscape	To conserve and protect landscape and townscape character and visual amenity.	- Will the action have an effect on the character of the landscape, townscape or seascape, including tranquillity and views? - Will the action protect and enhance designated landscapes and features?	Action has no direct impact on the landscape.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Material assets	To reduce, and make more efficient, the consumption of resources, and minimise the generation of waste.	- Will the action reuse existing infrastructure? - Will the action minimise the use of resources and generation of waste? - Will the action affect other services or assets such as utilities and transport network?	Reduced bursts lower repair waste and replacement materials and lower energy use reduces resource consumption.	Local	Low	Short-term	Temporary	No impact or impact does not affect	Low			0	Neutral	0	Neutral
	Avoid adverse effects on built assets and infrastructure		Lower pressure reduces burst frequency, protecting roads, utilities, buildings and transport infrastructure. Reduced ground saturation prevents subsidence and pavement failure.	Local	Low	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial

1.1.4 Water Saving Devices

SEA topic	Proposed SEA objectives	Indicator questions	Potential residual effect on sensitive receptors commentary	Scale of effect	Certainty of effect	Duration of effect	Permanence of effect	Magnitude of effect	Value/ Sensitivity of receptor	Embedded mitigation measures	Additional mitigation measures	Residual adverse effect significance		Residual Beneficial effect significance	
Biodiversity, Flora and Fauna	To protect and enhance biodiversity, ecological functions, capacity and habitat connectivity, including protecting designated sites and their qualifying features, priority species and priority habitats.	- Is the action likely to affect the conservation status of any internationally, nationally or locally designated sites? - Is the action likely to contribute to or conflict with the targets and conservation objectives for designated sites?	Action will not have any adverse effects on biodiversity or designated nature conservation sites. By reducing consumer demand for water, it will lessen the need for abstraction sources, which could benefit flow-sensitive habitats and species.	Local	Low	Short-term	Temporary	Low enhancement	Low	- Application of reasonable and best-practice mitigation measures/methods. - Compliance with regulatory standards and existing licence conditions. - Use of standard operational best practice.	- Appropriate specification and installation of devices. - Monitoring of uptake and water savings to confirm effectiveness. - Customer guidance on correct use and maintenance.	0	Neutral	+	Minor beneficial
	To provide opportunities for habitat creation or restoration.	Will the action protect and enhance aquatic habitats and species, including freshwater fisheries?	Action does not provide opportunities for habitat creation or restoration.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To avoid introducing or spreading and, where feasible, manage INNS.	Will the action enhance aquatic, transitional and terrestrial ecosystems?	No impact on avoiding the introduction or spreading of INNS.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To meet WFD objectives relating to biodiversity and targets and conservation objectives of designated sites.	- Does the action provide opportunities for habitat creation or restoration? - Is the action likely to affect ancient woodland, Section 41 of the NERC act habitats and species of principal importance for the purpose of conserving biodiversity? - Will the action affect any habitats that support legally protected species or species of conservation concern? - Is there a possibility for INNS to be spread/introduced or for algal blooms to occur?	The reduction in water usage will result in reduced requirement for abstraction at source and therefore, potential for beneficial impacts on flow and sensitive habitats/species. Alignment with no deterioration objectives and supporting achievement of good status.	Local	Low	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
Water	To maintain the quality of surface water and groundwater bodies, including meeting WFD objectives for water chemistry and supporting the objectives of groundwater-dependent sites.	- Will the action affect surface water quality or quantity? - Will the action affect ground water quality or quantity? - Is the action likely to contribute to or conflict with the achievement of WFD objectives?	Action may reduce the need for abstraction from sources, lessening associated impacts on surface and groundwater quality during drought conditions.	Local	Low	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
	To maintain surface water and groundwater flows and quantity.	- Will the action affect wetlands and Groundwater Dependent Terrestrial Ecosystems? - Will the action affect raw water quality? - Will the action comply with flow targets?	Use of water saving devices by customers is expected to benefit the water environment by lowering consumer demand, which in turn reduces the need for water abstraction, benefitting water flows.	Local	Low	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
	To meet WFD objectives and support the achievement of environmental objectives set out in RBMPs.	Does the action provide a reliable and sustainable water supply which meets changing demand?	Action does not directly support WFD nor RBMP objectives. However, potential in increased flow due to lower abstraction at source may have a beneficial effect on water environment.	Local	Low	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
	To increase water efficiency and increase resilience of water supplies and natural systems to droughts.	Will the action protect and enhance the environmental resilience of the water environment to drought?	Water saving devices provide are aimed at providing a long-term water efficiency usage at home and therefore action may increase the environmental resilience of the water environment to drought.	Local	Moderate	Long-term	Permanent	Low enhancement	Low			0	Neutral	+	Minor beneficial

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SEA topic	Proposed SEA objectives	Indicator questions	Potential residual effect on sensitive receptors commentary	Scale of effect	Certainty of effect	Duration of effect	Permanence of effect	Magnitude of effect	Value/ Sensitivity of receptor	Embedded mitigation measures	Additional mitigation measures	Residual adverse effect significance		Residual Beneficial effect significance	
Soil	To protect geological and geomorphological features, and the functionality and quality of soils, including the protection of high-grade agricultural land.	- Will the action affect high grade agricultural land? - Will the action prevent soil erosion and retain soil stocks as a natural resource? - Is the action likely to affect geodiversity, including SSSIs of geological importance?	Action will have no impact on geology, geomorphology and quality of soils.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Air	To reduce and minimise air emissions during operation.	- Is the action in an AQMA? - Will the action affect local air quality?	Action will have no impact on air quality.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Climatic factors	To minimise or reduce embodied and operational carbon and greenhouse gas emissions.	- Will the action affect carbon or other greenhouse gas emissions? - Does the action include measures to improve resilience to climate change and drought?	There is some carbon usage associated with increased customer communications associated with digital communications however these are negligible.	Local	Low	Short-term	Temporary	No impact or impact does not affect	Low			0	Neutral	0	Neutral
	To introduce climate mitigation where required and improve the climate resilience of assets and natural systems to the threats of climate change.	Will the action create catchment resilience to drought?	Increased customer communications although temporary encourage efficient water used and change in behaviours contributing to climate mitigation and resilience although these might be negligible.	Local	Low	Long-term	Permanent	No impact or impact does not affect	Low			0	Neutral	0	Neutral
Population and human health	To maintain the health and wellbeing of the local community, including economic and social wellbeing.	Does the action promote water efficiency and encourage a reduction in water consumption?	The action promotes results in efficient water usage resulting in reduction in water consumption.	Regional	High	Long-term	Permanent	Medium enhancement	Medium			0	Neutral	+	Moderate beneficial
	To secure resilient, high quality, sustainable and affordable water supplies over the long term for the health and wellbeing of the community.	- Will the action secure resilient water supplies for the health and wellbeing of customers? - Will the action enhance public awareness, engagement or understanding of the natural environment?	The action will lead to water savings that help strengthen the region's water supply security, thereby supporting and protecting the health and wellbeing of the community.	Regional	Moderate	Long-term	Permanent	Low enhancement	Medium			0	Neutral	+	Minor beneficial
	To connect customers to the natural environment, provide education or information resources for the public.	Will the action maintain or enhance the quality, accessibility and use of the water environment for recreation, tourism and navigation?	Action does not have an effect on providing education or information about the natural environment.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To maintain the water environment for other users including recreation, tourism and navigation.		No impacts on recreation, tourism or navigation are anticipated as a result of this action.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Historic environment	To conserve and protect the historic environment and heritage assets, and their settings, including archaeologically important sites.	- Will the action affect designated, non-designated heritage assets of archaeological interest that are demonstrably of equivalent significance to scheduled monuments or other non-designated historic assets? - Will the action affect the setting and/or significance of a historic asset? - Will the action affect archaeology (including unknown archaeology)? - Will the action alter the hydrological conditions of water-dependent heritage assets, including organic remains?	Action has no direct impact on the historic environment.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Landscape	To conserve and protect landscape and townscape	Will the action have an effect on the character of the landscape,	Action has no direct impact on the landscape.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral

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	character and visual amenity.	townscape or seascape, including tranquillity and views? Will the action protect and enhance designated landscapes and features?													
Material assets	To reduce, and make more efficient, the consumption of resources, and minimise the generation of waste.	- Will the action reuse existing infrastructure? - Will the action minimise the use of resources and generation of waste? - Will the action affect other services or assets such as utilities and transport network?	Action will not reduce or make more efficient use of resources.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	Avoid adverse effects on built assets and infrastructure		Action would offer some protection to existing water supply infrastructure; however, this is anticipated to be negligible.	Local	Low	Short-term	Temporary	No impact or impact does not affect	Low			0	Neutral	0	Neutral

1.1.5 Community Education

SEA topic	Proposed SEA objectives	Indicator questions	Potential residual effect on sensitive receptors commentary	Scale of effect	Certainty of effect	Duration of effect	Permanence of effect	Magnitude of effect	Value/ Sensitivity of receptor	Embedded mitigation measures	Additional mitigation measures	Residual adverse effect significance		Residual Beneficial effect significance	
Biodiversity, Flora and Fauna	To protect and enhance biodiversity, ecological functions, capacity and habitat connectivity, including protecting designated sites and their qualifying features, priority species and priority habitats.	- Is the action likely to affect the conservation status of any internationally, nationally or locally designated sites? - Is the action likely to contribute to or conflict with the targets and conservation objectives for designated sites? - Will the action protect and enhance aquatic habitats and species, including freshwater fisheries?	Action will not have any adverse effects on biodiversity or designated nature conservation sites. By reducing consumer demand for water, it will lessen the need for abstraction sources, which could benefit flow-sensitive habitats and species.	Local	Low	Short-term	Temporary	Low enhancement	Low	- Application of reasonable and best-practice mitigation measures/methods. - Compliance with regulatory standards and existing licence conditions. - Use of standard operational best practice. - Application of monitoring proposals, where relevant, to ensure environmental protection.	- Targeted and inclusive communication to avoid disproportionate impacts on vulnerable groups. - Monitoring of demand response to assess effectiveness. - Periodic review of education outcomes to refine messaging.	0	Neutral	+	Minor beneficial
	To provide opportunities for habitat creation or restoration.	- Will the action enhance aquatic, transitional and terrestrial ecosystems? - Does the action provide opportunities for habitat creation or restoration?	Action does not provide opportunities for habitat creation or restoration.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To avoid introducing or spreading and, where feasible, manage INNS.	Is the action likely to affect ancient woodland, Section 41 of the NERC act habitats and species of principal importance for the purpose of conserving biodiversity?	Educational audits and workshops will have no impact on avoiding the introduction or spreading of INNS.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To meet WFD objectives relating to biodiversity and targets and conservation objectives of designated sites.	- Is the action likely to affect ancient woodland, Section 41 of the NERC act habitats and species of principal importance for the purpose of conserving biodiversity? - Will the action affect any habitats that support legally protected species or species of conservation concern? - Is there a possibility for INNS to be spread/introduced or for algal blooms to occur?	The reduction in water usage will result in reduced requirement for abstraction at source and therefore, potential for beneficial impacts on flow and sensitive habitats/species. Therefore, aligning with no-deterioration and supporting good ecological status/potential.	Local	Low	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
Water	To maintain the quality of surface water and groundwater bodies, including meeting WFD objectives for water chemistry and supporting the objectives of groundwater-dependent sites.	- Will the action affect surface water quality or quantity? - Will the action affect ground water quality or quantity? - Is the action likely to contribute to or conflict with the achievement of WFD objectives? - Will the action affect wetlands and Groundwater Dependent Terrestrial Ecosystems?	Action may reduce the need for abstraction from sources, lessening associated impacts on surface and groundwater quality during drought conditions.	Local	Low	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
	To maintain surface water and groundwater flows and quantity.	- Will the action affect raw water quality? - Will the action comply with flow targets? - Does the action provide a reliable and sustainable water supply which meets changing demand?	Educational audits and workshops are expected to benefit the water environment by lowering consumer demand, which in turn reduces the need for water abstraction, benefitting water flows.	Local	Low	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
	To meet WFD objectives and support the achievement of environmental objectives set out in RBMPs.	Will the action protect and enhance the environmental resilience of the water environment to drought?	Action does not directly support WFD nor RBMP objectives. However, potential in increased flow due to lower abstraction at source may have a beneficial effect on water environment.	Local	Low	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
	To increase water efficiency and increase resilience of water supplies and natural systems to droughts.		Educational workshops promote behavioural change that may reduce water demand across the supply area. This may help in maintaining flows and water availability during drought conditions. Maintaining flows supports ecological function and reduces environmental stress. The effect is indirect but contributes positively to	Regional	Moderate	Long-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial

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			the resilience of water resources.												
Soil	To protect geological and geomorphological features, and the functionality and quality of soils, including the protection of high-grade agricultural land.	- Will the action affect high grade agricultural land? - Will the action prevent soil erosion and retain soil stocks as a natural resource? - Is the action likely to affect geodiversity, including SSSIs of geological importance?	Action will have no impact on geology, geomorphology and quality of soils.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Air	To reduce and minimise air emissions during operation.	- Is the action in an AQMA? - Will the action affect local air quality?	Emissions related to vehicle trips will affect air quality; however, majority of NW supply area sits outside of AQMA areas.	Local	Moderate	Short-term	Temporary	Low loss/change	Low			-	Minor adverse	0	Neutral
Climatic factors	To minimise or reduce embodied and operational carbon and greenhouse gas emissions.	- Will the action affect carbon or other greenhouse gas emissions? - Does the action include measures to improve resilience to climate change and drought? - Will the action create catchment resilience to drought?	There is some carbon usage associated with increased customer communications however these are negligible. Action will require vehicle trips that generate greenhouse gas emissions having minor adverse effects.	Local	Low	Short-term	Temporary	Low loss/change	Low			-	Minor adverse	0	Neutral
	To introduce climate mitigation where required and improve the climate resilience of assets and natural systems to the threats of climate change.		Educational audits and workshops although temporary encourage efficient water usage and change in behaviours contributing to climate mitigation and resilience although these might be negligible.	Local	Low	Long-term	Permanent	No impact or impact does not affect	Low			0	Neutral	0	Neutral
Population and human health	To maintain the health and wellbeing of the local community, including economic and social wellbeing.	- Does the action promote water efficiency and encourage a reduction in water consumption? - Will the action secure resilient water supplies for the health and wellbeing of customers? - Will the action enhance public awareness, engagement or understanding of the natural environment? - Will the action maintain or enhance the quality, accessibility and use of the water environment for recreation, tourism and navigation?	Educational audits and workshops promote water efficiency and encourage a reduction in water consumption. Action also helps raise awareness of the importance and value of water environment for health and well-being.	Regional	High	Long-term	Permanent	Medium enhancement	Medium			0	Neutral	+	Moderate beneficial
	To secure resilient, high quality, sustainable and affordable water supplies over the long term for the health and wellbeing of the community.		The action will lead to water savings that help strengthen the region's water supply security, thereby supporting and protecting the health and wellbeing of the community.	Regional	Moderate	Long-term	Permanent	Low enhancement	Medium			0	Neutral	+	Minor beneficial
	To connect customers to the natural environment, provide education or information resources for the public.		Workshops promote water savings and efficiency in the home/businesses and therefore do not provide education or information about the natural environment.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To maintain the water environment for other users including recreation, tourism and navigation.		No impacts on recreation, tourism or navigation are anticipated as a result of this action.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Historic environment	To conserve and protect the historic environment and heritage assets, and their settings, including archaeologically important sites.	Will the action affect designated, non-designated heritage assets of archaeological interest that are demonstrably of equivalent significance to scheduled monuments or other non-designated historic assets?	Action has no direct impact on the historic environment.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral

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SEA topic	Proposed SEA objectives	Indicator questions	Potential residual effect on sensitive receptors commentary	Scale of effect	Certainty of effect	Duration of effect	Permanence of effect	Magnitude of effect	Value/ Sensitivity of receptor	Embedded mitigation measures	Additional mitigation measures	Residual adverse effect significance		Residual Beneficial effect significance	
		- Will the action affect the setting and/or significance of a historic asset? - Will the action affect archaeology (including unknown archaeology)? - Will the action alter the hydrological conditions of water-dependent heritage assets, including organic remains?													
Landscape	To conserve and protect landscape and townscape character and visual amenity.	- Will the action have an effect on the character of the landscape, townscape or seascape, including tranquillity and views? - Will the action protect and enhance designated landscapes and features?	Action has no direct impact on the landscape.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Material assets	To reduce, and make more efficient, the consumption of resources, and minimise the generation of waste.	- Will the action reuse existing infrastructure? - Will the action minimise the use of resources and generation of waste?	Action will not reduce or make more efficient use of resources.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	Avoid adverse effects on built assets and infrastructure	Will the action affect other services or assets such as utilities and transport network?	Action would offer some protection to existing water supply infrastructure; however, this is anticipated to be negligible.	Local	Low	Short-term	Temporary	No impact or impact does not affect	Low			0	Neutral	0	Neutral

1.1.6 Governmental Led Interventions

SEA topic	Proposed SEA objectives	Indicator questions	Potential residual effect on sensitive receptors commentary	Scale of effect	Certainty of effect	Duration of effect	Permanence of effect	Magnitude of effect	Value/ Sensitivity of receptor	Embedded mitigation measures	Additional mitigation measures	Residual adverse effect significance		Residual Beneficial effect significance	
Biodiversity, Flora and Fauna	To protect and enhance biodiversity, ecological functions, capacity and habitat connectivity, including protecting designated sites and their qualifying features, priority species and priority habitats.	- Is the action likely to affect the conservation status of any internationally, nationally or locally designated sites? - Is the action likely to contribute to or conflict with the targets and conservation objectives for designated sites? - Will the action protect and enhance aquatic habitats and species, including freshwater fisheries? - Will the action enhance aquatic, transitional and terrestrial ecosystems? - Does the action provide opportunities for habitat creation or restoration? - Is the action likely to affect ancient woodland, Section 41 of the NERC act habitats and species of principal importance for the purpose of conserving biodiversity?	UK government-led drought interventions, such as directions to limit abstraction, conditions attached to Drought Orders, and regulatory oversight by bodies like the Environment Agency, Natural Resources Wales, Scottish Environment Protection Agency and Northern Ireland Environment Agency, are often explicitly designed to protect sensitive habitats, SSSIs, Natura 2000/European sites (now retained in UK law), Ramsar sites and priority habitats. By constraining damaging abstraction and prioritising environmental flow needs, these measures can have a beneficial effect on biodiversity, helping to maintain ecological functions and reduce stress on designated and non-designated habitats during drought.	Regional	High	Medium-term	Temporary	Low enhancement	High	- Application of reasonable and best-practice mitigation measures/methods. - Compliance with regulatory standards and existing licence conditions. - Use of standard operational best practice. - Application of monitoring proposals, where relevant, to ensure environmental protection (e.g., flow, water quality, ecological indicators).	- Consultation with affected water users (particularly in relation to other abstractors) to determine how licences are used, associated conditions and potential impacts of specific drought options. - Extensive consultation in relation to the implementation of water restrictions and bans on use. - Modifications to operating regimes of water level management or flood risk management structures, where appropriate, to help ensure that river flows are maintained.	0	Neutral	+	Moderate beneficial
	To provide opportunities for habitat creation or restoration.	- Will the action affect any habitats that support legally protected species or species of conservation concern? - Is there a possibility for INNS to be spread/introduced or for algal blooms to occur?	The interventions are primarily legal, regulatory and policy tools and therefore do not directly create or restore habitats. However, by preventing severe ecological degradation during drought, particularly in rivers, wetlands and lakes, they help safeguard the baseline condition needed for ongoing or future habitat restoration schemes promoted through UK conservation programmes and agri-environment schemes, providing indirect support to restoration objectives.	Local	Moderate	Medium-term	Temporary	Low enhancement	High		- Provision of adequate treatment of any water which is to be transferred between catchments. - Provision of adequate treatment of effluent prior to its reintroduction to any surface water bodies. - Use of renewable or 'clean' energy sources where practicable. - Where archaeological remains are at risk due to water level changes measures set out in the Historic England 'Preserving Archaeological Remains' guidance (2016)¹ should be implemented as appropriate.	0	Neutral	+	Moderate beneficial
	To avoid introducing or spreading and, where feasible, manage INNS.		The interventions do not typically involve physical works or water transfers and therefore do not themselves create a direct pathway for INNS spread. Where UK or devolved administrations and regulators issue guidance or conditions on emergency measures (such as inter-catchment transfers), they can require adherence to national INNS and biosecurity protocols, thereby helping to manage rather than increase INNS risks.	Local	High	Short-term	Temporary	Low enhancement	Medium			0	Neutral	+	Minor beneficial
	To meet WFD objectives relating to biodiversity and targets and conservation objectives of designated sites.		The interventions, including Drought Orders and regulatory decisions, are taken within this framework and must have regard to environmental objectives and designated site conservation targets. As such, they can play a key role in preventing deterioration in ecological status and supporting the achievement of conservation objectives during drought.	Regional	High	Medium term	Temporary	Medium enhancement	High			0	Neutral	+	Moderate beneficial

¹ Historic England (2016) Preserving Archaeological Remains: Decision-taking for Sites under Development. Swindon: Historic England. Available at: <https://historicengland.org.uk/images-books/publications/preserving-archaeological-remains/> [Accessed February 2026]

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Water	To maintain the quality of surface water and groundwater bodies, including meeting WFD objectives for water chemistry and supporting the objectives of groundwater-dependent sites.	- Will the action affect surface water quality or quantity? - Will the action affect ground water quality or quantity? - Is the action likely to contribute to or conflict with the achievement of WFD objectives? - Will the action affect wetlands and Groundwater Dependent Terrestrial Ecosystems? - Will the action affect raw water quality? - Will the action comply with flow targets?	Government-led drought interventions focus mainly on regulating abstraction and water use rather than discharges, so their direct influence on water quality is limited. However, by helping to maintain minimum flows and water levels in rivers, lakes and groundwater-fed systems, they can indirectly support water quality by reducing the risk of pollutant concentration and ecological stress that can arise when flows are severely depleted during drought.	Regional	High	Medium-term	Temporary	Medium enhancement	High			0	Neutral	++	Moderate beneficial
	To maintain surface water and groundwater flows and quantity.	- Does the action provide a reliable and sustainable water supply which meets changing demand? - Will the action protect and enhance the environmental resilience of the water environment to drought?	A central purpose of government-led drought interventions, such as Drought Orders, abstraction restrictions and sectoral prioritisation, is to manage water resources strategically to protect both public supply and the environment. By constraining abstraction from sensitive sources and coordinating responses across sectors, these interventions help maintain environmental flows and groundwater levels, reducing the risk of over-abstraction and long-term damage to water bodies.	Regional	High	Medium-term	Temporary	Medium enhancement	High			0	Neutral	++	Moderate beneficial
	To meet WFD objectives and support the achievement of environmental objectives set out in RBMPs.		By guiding and constraining drought responses, the action supports compliance with WFD and RBMP plans and help ensure that short-term drought management does not undermine long-term environmental objectives.	Regional	High	Medium-term	Temporary	Medium enhancement	High			0	Neutral	++	Moderate beneficial
	To increase water efficiency and increase resilience of water supplies and natural systems to droughts.		Government-led drought interventions such as TUBs, NEUBs, and national or regional drought communications can drive significant reductions in demand across domestic, commercial and industrial users. These interventions improve water efficiency at scale and enhance the resilience of both public water supplies and natural systems by reducing overall pressure on water resources during drought.	Regional	High	Medium-term	Temporary	Low enhancement	High			0	Neutral	++	Moderate beneficial
Soil	To protect geological and geomorphological features, and the functionality and quality of soils, including the protection of high-grade agricultural land.	- Will the action affect high grade agricultural land? - Will the action prevent soil erosion and retain soil stocks as a natural resource? - Is the action likely to affect geodiversity, including SSSIs of geological importance?	Government-led drought interventions are regulatory and policy-based and do not involve construction, excavation or land-take, so they have no direct effects on soils, geological features or the quality of agricultural land.	Local	High	Short-term	Temporary	No impact or impact does not affect	Medium			0	Neutral	0	Neutral
Air	To reduce and minimise air emissions during operation.	- Is the action in an AQMA? - Will the action affect local air quality?	The interventions do not involve physical works or significant operational activities and therefore do not directly generate air emissions. Any indirect effects on air quality, for example, changes in industrial or agricultural activity due to water restrictions, are diffuse, context-specific and not generally significant at the scale of the intervention itself. Overall, the impact on air emissions is negligible.	Local	High	Short-term	Temporary	No impact or impact does not affect	Medium			0	Neutral	0	Neutral

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Climatic factors	To minimise or reduce embodied and operational carbon and greenhouse gas emissions.	- Will the action affect carbon or other greenhouse gas emissions? - Does the action include measures to improve resilience to climate change and drought? - Will the action create catchment resilience to drought?	By encouraging reduced water use and more efficient operation of water systems, government-led drought interventions can indirectly reduce energy use associated with abstraction, treatment and distribution. This contributes to lower operational carbon emissions, even though the interventions themselves have a very small direct carbon footprint.	Local	Moderate	Medium term	Temporary	Low enhancement	Medium			0	Neutral	+	Minor beneficial
	To introduce climate mitigation where required and improve the climate resilience of assets and natural systems to the threats of climate change.		The interventions form part of a wider climate adaptation framework, recognising that droughts are becoming more frequent and severe. By providing a structured, legally backed approach to managing water scarcity, they enhance the climate resilience of both water supply systems and natural ecosystems.	Local	High	Long term	Temporary	Medium enhancement	High			0	Neutral	++	Moderate beneficial
Population and human health	To maintain the health and wellbeing of the local community, including economic and social wellbeing.	- Does the action promote water efficiency and encourage a reduction in water consumption? - Will the action secure resilient water supplies for the health and wellbeing of customers? - Will the action enhance public awareness, engagement or understanding of the natural environment? - Will the action maintain or enhance the quality, accessibility and use of the water environment for recreation, tourism and navigation?	Government-led drought interventions aim to safeguard essential water supplies for households, health services and key sectors, which is fundamental to public health and wellbeing. While restrictions on non-essential water use may cause inconvenience or localised economic impacts, these are outweighed by the benefits of maintaining secure supplies and avoiding more severe disruptions.	Regional	High	Medium term	Temporary	Medium enhancement	High			0	Neutral	++	Moderate beneficial
	To secure resilient, high quality, sustainable and affordable water supplies over the long term for the health and wellbeing of the community.		The interventions support long-term resilience by ensuring that drought management is planned, regulated and coordinated between regulators, water companies and other abstractors. They help maintain high-quality, reliable and sustainable water supplies, which is critical for community wellbeing.	Regional	High	Long-term	Permanent	Medium enhancement	High			0	Neutral	++	Moderate beneficial
	To connect customers to the natural environment, provide education or information resources for the public.		Government-led drought interventions often include public information campaigns and guidance on water saving and environmental protection. These communications help raise awareness of water scarcity and the value of the water environment, contributing positively to public understanding and engagement.	Regional	Moderate	Medium-term	Temporary	Low enhancement	Medium			0	Neutral	+	Minor beneficial
	To maintain the water environment for other users including recreation, tourism and navigation.		By protecting environmental flows and preventing severe degradation of rivers, lakes and canals, these interventions help maintain conditions for recreation, tourism and navigation as far as practicable during drought. Although some restrictions may limit certain activities, the overall aim is to preserve the underlying water environment for long-term use.	Regional	Moderate	Medium-term	Temporary	Low enhancement	Medium			0	Neutral	+	Minor beneficial
Historic environment	To conserve and protect the historic environment and heritage assets, and their settings, including archaeologically important sites.	Will the action affect designated, non-designated heritage assets of archaeological interest that are demonstrably of equivalent significance to scheduled monuments or other non-designated historic assets?	Government-led drought interventions do not involve physical works and therefore do not directly affect designated or undesignated heritage assets, archaeological remains or their setting. Indirectly, by helping maintain water levels in water bodies, wetlands or peatlands, they	Local	Moderate	Medium-term	Temporary	Low enhancement	High			0	Neutral	++	Moderate beneficial

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		- Will the action affect the setting and/or significance of a historic asset? - Will the action affect archaeology (including unknown archaeology)? - Will the action alter the hydrological conditions of water-dependent heritage assets, including organic remains?	may contribute to the protection of heritage features sensitive to drying or hydrological change, though these effects are modest and site-specific.												
Landscape	To conserve and protect landscape and townscape character and visual amenity.	- Will the action have an effect on the character of the landscape, townscape or seascape, including tranquillity and views? - Will the action protect and enhance designated landscapes and features?	As policy and regulatory measures, these interventions do not alter landscape or townscape character and have no direct visual impacts. Any landscape changes observed during drought, such as exposed reservoir margins, result from hydrological conditions and operational decisions rather than the interventions themselves.	Local	High	Short-term	Temporary	No impact or impact does not affect	Medium			0	Neutral	0	Neutral
Material assets	To reduce, and make more efficient, the consumption of resources, and minimise the generation of waste.	- Will the action reuse existing infrastructure? - Will the action minimise the use of resources and generation of waste? - Will the action affect other services or assets such as utilities and transport network?	By promoting water efficiency and constraining non-essential use, government-led drought interventions encourage more efficient use of water resources. This can reduce the need for resource-intensive emergency measures and help optimise the use of existing infrastructure, although the interventions themselves do not directly influence waste generation.	Local	Moderate	Medium-term	Temporary	No impact or impact does not affect	Medium			0	Neutral	0	Neutral
	Avoid adverse effects on built assets and infrastructure		The interventions do not involve construction and do not directly impact built assets or infrastructure. By supporting orderly, planned drought management and avoiding uncoordinated emergency responses, they help protect the integrity and performance of existing water supply infrastructure.	Local	High	Medium-term	Temporary	No impact or impact does not affect	Medium			0	Neutral	0	Neutral

1.1.7 Stop Proactive Flushing

SEA topic	Proposed SEA objectives	Indicator questions	Potential residual effect on sensitive receptors commentary	Scale of effect	Certainty of effect	Duration of effect	Permanence of effect	Magnitude of effect	Value/ Sensitivity of receptor	Embedded mitigation measures	Additional mitigation measures	Residual adverse effect significance		Residual Beneficial effect significance	
Biodiversity, Flora and Fauna	To protect and enhance biodiversity, ecological functions, capacity and habitat connectivity, including protecting designated sites and their qualifying features, priority species and priority habitats.	- Is the action likely to affect the conservation status of any internationally, nationally or locally designated sites? - Is the action likely to contribute to or conflict with the targets and conservation objectives for designated sites? - Will the action protect and enhance aquatic habitats and species, including freshwater fisheries?	Stopping proactive flushing can result in water-quality failures leading to unplanned discharges or pollution incidents, causing downstream ecological impacts on aquatic habitats and sensitive species. However, given that this action would be temporary, the effects are anticipated to be negligible.	Regional	Moderate	Short-term	Temporary	No impact or impact does not affect	Medium	- Application of reasonable and best-practice mitigation measures/methods. - Compliance with regulatory standards and existing operational controls. - Use of standard operational best practice. - Application of monitoring proposals, where relevant, including monitoring of system water quality during drought.	- Precautionary contingency water quality monitoring and targeted flushing to be implemented if deterioration in water quality, regulatory non-compliance, or customer health impacts are detected during the temporary suspension of proactive flushing. - Extensive consultation in relation to the implementation of water restrictions and bans on use.	0	Neutral	0	Neutral
	To provide opportunities for habitat creation or restoration.	Will the action enhance aquatic, transitional and terrestrial ecosystems?	Action does not contribute to habitat creation or restoration.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To avoid introducing or spreading and, where feasible, manage INNS.	Does the action provide opportunities for habitat creation or restoration?	No impact on avoiding the introduction or spreading of INNS.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To meet WFD objectives relating to biodiversity and targets and conservation objectives of designated sites.	- Is the action likely to affect ancient woodland, Section 41 of the NERC act habitats and species of principal importance for the purpose of conserving biodiversity? - Will the action affect any habitats that support legally protected species or species of conservation concern? - Is there a possibility for INNS to be spread/introduced or for algal blooms to occur?	No impact on meeting WFD objectives as this measure is temporary and doesn't have a long-term alignment with objective of achieving good status.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Water	To maintain the quality of surface water and groundwater bodies, including meeting WFD objectives for water chemistry and supporting the objectives of groundwater-dependent sites.	- Will the action affect surface water quality or quantity? - Will the action affect ground water quality or quantity? - Is the action likely to contribute to or conflict with the achievement of WFD objectives? - Will the action affect wetlands and Groundwater Dependent Terrestrial Ecosystems?	Proactive flushing helps maintain water quality within pipes. Stopping it raises the likelihood of compliance failures and water-quality events. Emergency flushing could result in uncontrolled discharges affecting water bodies. However, given that this action would be temporary, the effects are anticipated to be negligible.	Local	Low	Short-term	Temporary	No impact or impact does not affect	Medium			0	Neutral	0	Neutral
	To maintain surface water and groundwater flows and quantity.	- Will the action affect raw water quality? - Will the action comply with flow targets?	Stopping flushing would save water otherwise released during routine maintenance reducing need for abstraction at source.	Local	Low	Short-term	Temporary	Low enhancement	Medium			0	Neutral	+	Minor beneficial
	To meet WFD objectives and support the achievement of environmental objectives set out in RBMPs.	- Does the action provide a reliable and sustainable water supply which meets changing demand? - Will the action protect and enhance the environmental resilience of the water environment to drought?	No impact on meeting WFD objectives.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To increase water efficiency and increase resilience of water supplies and natural systems to droughts.		This action is temporary and so water savings from reduced flushing will not contribute to long term objective of increasing water efficiency and resilience to drought.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Soil	To protect geological and geomorphological features, and the functionality and quality of soils, including the protection of high-grade agricultural land.	- Will the action affect high grade agricultural land? - Will the action prevent soil erosion and retain soil stocks as a natural resource? - Is the action likely to affect geodiversity, including SSSIs of geological importance?	Action will have no impact on geology, geomorphology and quality of soils.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral

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Air	To reduce and minimise air emissions during operation.	- Is the action in an AQMA? - Will the action affect local air quality?	Action will have no impact on air quality.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Climatic factors	To minimise or reduce embodied and operational carbon and greenhouse gas emissions.	- Will the action affect carbon or other greenhouse gas emissions? - Does the action include measures to improve resilience to climate change and drought? - Will the action create catchment resilience to drought?	Stopping routine flushing may slightly reduce operational emissions (vehicle movements, equipment use).	Local	Moderate	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
	To introduce climate mitigation where required and improve the climate resilience of assets and natural systems to the threats of climate change.		No effect on climate mitigation or resilience.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Population and human health	To maintain the health and wellbeing of the local community, including economic and social wellbeing.	- Does the action promote water efficiency and encourage a reduction in water consumption? - Will the action secure resilient water supplies for the health and wellbeing of customers? - Will the action enhance public awareness, engagement or understanding of the natural environment? - Will the action maintain or enhance the quality, accessibility and use of the water environment for recreation, tourism and navigation?	Stopping proactive flushing increases risk of taste, odour, discolouration and potential bacteriological issues, affecting customer satisfaction and public health confidence.	Regional	High	Short-term	Temporary	Low loss/change	Medium			-	Minor adverse	0	Neutral
	To secure resilient, high quality, sustainable and affordable water supplies over the long term for the health and wellbeing of the community.		Given this action is temporary it will not have long term adverse effects on resilience of supplies.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To connect customers to the natural environment, provide education or information resources for the public.		This action does not provide education or environmental engagement.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To maintain the water environment for other users including recreation, tourism and navigation.		No impacts on recreation, tourism or navigation are anticipated as a result of this action.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Historic environment	To conserve and protect the historic environment and heritage assets, and their settings, including archaeologically important sites.	- Will the action affect designated, non-designated heritage assets of archaeological interest that are demonstrably of equivalent significance to scheduled monuments or other non-designated historic assets? - Will the action affect the setting and/or significance of a historic asset? - Will the action affect archaeology (including unknown archaeology)? - Will the action alter the hydrological conditions of water-dependent heritage assets, including organic remains?	Stopping proactive flushing has no direct interaction with designated or undesignated heritage assets, archaeological remains or their setting, as the activity takes place within existing infrastructure.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Landscape	To conserve and protect landscape and townscape character and visual amenity.	- Will the action have an effect on the character of the landscape, townscape or seascape, including tranquillity and views? - Will the action protect and enhance designated landscapes and features?	Proactive flushing has minimal visual impact and stopping it will not alter landscape character.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Material assets	To reduce, and make more efficient, the consumption of	Will the action reuse existing infrastructure?	Suspension of proactive flushing may result in short-term stagnation and increased	Local	Moderate	Short-term	Temporary	No impact or impact does not affect	Medium			0	Neutral	0	Neutral

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	resources, and minimise the generation of waste.	- Will the action minimise the use of resources and generation of waste? - Will the action affect other services or assets such as utilities and transport network?	deposition within the network, which could increase the likelihood of bursts and the need for reactive maintenance and associated material use. However, given the temporary nature of the measure and the application of operational monitoring and contingency interventions, any effects are expected to be negligible.												
	Avoid adverse effects on built assets and infrastructure		Reduced flushing may allow minor deposit and biofilm build-up, increased corrosion risk and affect operational performance. However, effects are limited to the temporary period and controlled through monitoring, with no lasting impact on asset condition. Given this, temporary adverse effects would be negligible.	Local	Moderate	Short-term	Temporary	No impact or impact does not affect	Medium			0	Neutral	0	Neutral

1.1.8 Optimising Water Supply

SEA topic	Proposed SEA objectives	Indicator questions	Potential residual effect on sensitive receptors commentary	Scale of effect	Certainty of effect	Duration of effect	Permanence of effect	Magnitude of effect	Value/ Sensitivity of receptor	Embedded mitigation measures	Additional mitigation measures	Residual adverse effect significance		Residual Beneficial effect significance	
Biodiversity, Flora and Fauna	To protect and enhance biodiversity, ecological functions, capacity and habitat connectivity, including protecting designated sites and their qualifying features, priority species and priority habitats.	- Is the action likely to affect the conservation status of any internationally, nationally or locally designated sites? - Is the action likely to contribute to or conflict with the targets and conservation objectives for designated sites? - Will the action protect and enhance aquatic habitats and species, including freshwater fisheries? - Will the action enhance aquatic, transitional and terrestrial ecosystems? - Does the action provide opportunities for habitat creation or restoration?	Optimising the water supply system and network will be delivered within existing infrastructure and operational boundaries. No direct land-take or habitat disturbance is expected. By improving system efficiency and reducing the need for additional abstraction, the measure has the potential to support flow-sensitive habitats and species. Overall, effects are assessed as minor beneficial.	Regional	Moderate	Long-term	Temporary	Medium enhancement	Low	- Application of reasonable and best-practice mitigation measures/methods. - Compliance with regulatory standards and existing licence conditions. - Use of standard operational best practice. - Application of monitoring proposals, where relevant, to ensure environmental protection (e.g., flow, water quality, ecological indicators).	None required.	0	Neutral	+	Minor beneficial
	To provide opportunities for habitat creation or restoration.	Is the action likely to affect ancient woodland, Section 41 of the NERC act habitats and species of principal importance for the purpose of conserving biodiversity?	This measure does not create or restore habitat, as it is an operational change within existing assets.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To avoid introducing or spreading and, where feasible, manage INNS.	Will the action affect any habitats that support legally protected species or species of conservation concern?	No pathway exists for INNS introduction because optimisation does not involve physical water transfers between catchments or new construction.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To meet WFD objectives relating to biodiversity and targets and conservation objectives of designated sites.	Is there a possibility for INNS to be spread/introduced or for algal blooms to occur?	By reducing abstraction from sensitive sources and improving system efficiency, optimisation can support WFD objectives by helping avoid deterioration in ecological status during drought.	Regional	Low	Long-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
Water	To maintain the quality of surface water and groundwater bodies, including meeting WFD objectives for water chemistry and supporting the objectives of groundwater-dependent sites.	- Will the action affect surface water quality or quantity? - Will the action affect ground water quality or quantity? - Is the action likely to contribute to or conflict with the achievement of WFD objectives? - Will the action affect wetlands and Groundwater Dependent Terrestrial Ecosystems? - Will the action affect raw water quality?	Optimisation does not involve direct discharges or physical disturbance, so no direct water quality impacts are expected.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To maintain surface water and groundwater flows and quantity.	- Will the action comply with flow targets? - Does the action provide a reliable and sustainable water supply which meets changing demand? - Will the action protect and enhance the environmental resilience of the water environment to drought?	This measure can have a beneficial effect on water quantity by shifting abstraction away from sensitive sources and balancing demand across the network. By improving the efficiency of supply operations, optimisation helps maintain environmental flows and reduces the risk of over-abstraction during drought.	Regional	Moderate	Long-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
	To meet WFD objectives and support the achievement of environmental objectives set out in RBMPs.		Optimisation supports compliance with abstraction licences and environmental flow requirements, helping prevent deterioration in WFD status. By reducing pressure on vulnerable water bodies, it aligns with the environmental objectives set out in RBMPs.	Regional	Moderate	Long-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
	To increase water efficiency and increase resilience of water supplies and natural systems to droughts.		This measure directly enhances water efficiency by ensuring that available resources are used in the most effective way. It also strengthens system resilience during drought by improving	Regional	Moderate	Long-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial

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			operational flexibility and reducing the need for more environmentally intrusive measures such as emergency abstraction or tankering.												
Soil	To protect geological and geomorphological features, and the functionality and quality of soils, including the protection of high-grade agricultural land.	- Will the action affect high grade agricultural land? - Will the action prevent soil erosion and retain soil stocks as a natural resource? - Is the action likely to affect geodiversity, including SSSIs of geological importance?	Optimising water supply does not involve ground disturbance, excavation or land-take, and therefore has no effect on soils, geological features or agricultural land. The measure is operational in nature and does not introduce risks to soil quality or function.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Air	To reduce and minimise air emissions during operation.	- Is the action in an AQMA? - Will the action affect local air quality?	As an operational measure, optimisation does not generate significant air emissions. Any minor increases in vehicle movements for operational monitoring or adjustments are negligible and do not materially affect local air quality. Overall, the measure has no meaningful impact on air emissions.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Climatic factors	To minimise or reduce embodied and operational carbon and greenhouse gas emissions.	- Will the action affect carbon or other greenhouse gas emissions? - Does the action include measures to improve resilience to climate change and drought? - Will the action create catchment resilience to drought?	Optimising supply can reduce operational carbon emissions by improving pumping efficiency and reducing the need for carbon-intensive emergency measures such as tankering. By making better use of existing assets, the measure contributes to lower energy consumption and reduced greenhouse gas emissions.	Regional	Moderate	Long-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
	To introduce climate mitigation where required and improve the climate resilience of assets and natural systems to the threats of climate change.		This measure enhances climate resilience by improving the flexibility and robustness of the supply system during drought. By enabling more efficient use of available resources, optimisation helps maintain supply during climate-driven periods of low water availability and reduces pressure on natural systems.	Regional	Moderate	Long-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
Population and human health	To maintain the health and wellbeing of the local community, including economic and social wellbeing.	- Does the action promote water efficiency and encourage a reduction in water consumption? - Will the action secure resilient water supplies for the health and wellbeing of customers? - Will the action enhance public awareness, engagement or understanding of the natural environment? - Will the action maintain or enhance the quality, accessibility and use of the water environment for recreation, tourism and navigation?	Optimising supply supports the continuity of water services during drought, which is essential for public health and wellbeing. By reducing the likelihood of supply interruptions, the measure provides a beneficial contribution to community resilience.	Regional	Moderate	Long-term	Temporary	Medium enhancement	Medium			0	Neutral	++	Moderate beneficial
	To secure resilient, high quality, sustainable and affordable water supplies over the long term for the health and wellbeing of the community.		This measure has a beneficial effect on supply resilience. By improving operational efficiency and reducing reliance on stressed sources, optimisation helps maintain high-quality and reliable water supplies without requiring costly or environmentally intrusive interventions.	Regional	Moderate	Long-term	Temporary	Medium enhancement	Low			0	Neutral	+	Minor beneficial
	To connect customers to the natural environment, provide education or information		Optimising supply does not directly involve public engagement or environmental education. It is an internal operational measure and	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral

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	resources for the public.		therefore does not contribute to this objective.												
	To maintain the water environment for other users including recreation, tourism and navigation.		By reducing abstraction pressure on sensitive water bodies, optimisation can help maintain conditions for recreational users, navigation, tourism and other water-dependent activities. This indirect benefit supports wider community use of the water environment.	Regional	Moderate	Long-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
Historic environment	To conserve and protect the historic environment and heritage assets, and their settings, including archaeologically important sites.	- Will the action affect designated, non-designated heritage assets of archaeological interest that are demonstrably of equivalent significance to scheduled monuments or other non-designated historic assets? - Will the action affect the setting and/or significance of a historic asset? - Will the action affect archaeology (including unknown archaeology)? - Will the action alter the hydrological conditions of water-dependent heritage assets, including organic remains?	Optimising supply does not involve construction or ground disturbance and therefore poses no risk to designated or undesignated heritage assets, archaeological remains or their setting. As the measure is operational and uses existing infrastructure, it also does not affect the setting of heritage features.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Landscape	To conserve and protect landscape and townscape character and visual amenity.	- Will the action have an effect on the character of the landscape, townscape or seascape, including tranquillity and views? - Will the action protect and enhance designated landscapes and features?	There are no landscape or visual impacts associated with this measure, as it does not involve new structures, construction activity or changes to land use. All activities occur within existing operational sites and systems.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Material assets	To reduce, and make more efficient, the consumption of resources, and minimise the generation of waste.	- Will the action reuse existing infrastructure? - Will the action minimise the use of resources and generation of waste? - Will the action affect other services or assets such as utilities and transport network?	Optimising supply improves the efficiency of existing assets and reduces energy use, contributing positively to resource efficiency. The measure does not generate waste and does not require new materials or construction inputs.	Regional	Moderate	Long-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
	Avoid adverse effects on built assets and infrastructure		The measure has no adverse effects on built assets or infrastructure. In fact, by improving operational performance, optimisation may help extend asset life and reduce wear on pumps and network components.	Regional	Moderate	Long-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial

1.1.9 Minimise Minimum Flows at Water Treatment Works (WTW)

SEA topic	Proposed SEA objectives	Indicator questions	Potential residual effect on sensitive receptors commentary	Scale of effect	Certainty of effect	Duration of effect	Permanence of effect	Magnitude of effect	Value/ Sensitivity of receptor	Embedded mitigation measures	Additional mitigation measures	Residual adverse effect significance		Residual Beneficial effect significance	
Biodiversity, Flora and Fauna	To protect and enhance biodiversity, ecological functions, capacity and habitat connectivity, including protecting designated sites and their qualifying features, priority species and priority habitats.	- Is the action likely to affect the conservation status of any internationally, nationally or locally designated sites? - Is the action likely to contribute to or conflict with the targets and conservation objectives for designated sites? - Will the action protect and enhance aquatic habitats and species, including freshwater fisheries? - Will the action enhance aquatic, transitional and terrestrial ecosystems?	Lowering minimum WTW throughput during drought operation reduces abstraction pressure at low flows, helping sustain environmental flows/levels in source waters, thereby reducing ecological stress on aquatic and riparian receptors during drought. Given that this action has a more substantial water saving the effect is minor beneficial rather than negligible.	Local	Moderate	Short-term	Temporary	Low enhancement	Low	- Application of reasonable and best-practice mitigation measures/methods. - Compliance with regulatory standards and existing licence conditions and with WFD no-deterioration requirements. - Use of standard operational best practice. - Application of monitoring proposals, where relevant, to ensure environmental protection (e.g., flow, water quality, ecological indicators).	None required.	0	Neutral	+	Minor beneficial
	To provide opportunities for habitat creation or restoration.	Does the action provide opportunities for habitat creation or restoration?	Action does not provide opportunities for habitat creation or restoration.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To avoid introducing or spreading and, where feasible, manage INNS.	Is the action likely to affect ancient woodland, Section 41 of the NERC act habitats and species of principal importance for the purpose of conserving biodiversity?	Action has no effect on spreading INNS.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To meet WFD objectives relating to biodiversity and targets and conservation objectives of designated sites.	- Will the action affect any habitats that support legally protected species or species of conservation concern? - Is there a possibility for INNS to be spread/introduced or for algal blooms to occur?	Helps meet no-deterioration objectives by reducing hydrological pressure; supports RBMP ecological objectives linked to flow regime.	Local	Moderate	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
Water	To maintain the quality of surface water and groundwater bodies, including meeting WFD objectives for water chemistry and supporting the objectives of groundwater-dependent sites.	- Will the action affect surface water quality or quantity? - Will the action affect ground water quality or quantity? - Is the action likely to contribute to or conflict with the achievement of WFD objectives? - Will the action affect wetlands and Groundwater Dependent Terrestrial Ecosystems?	Environmentally, flow support can improve dilution/temperature resilience. Operationally, lower throughput can challenge some processes (e.g., filter ripening, residence times, chlorination CT control) if not well managed.	Local	Moderate	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
	To maintain surface water and groundwater flows and quantity.	Will the action affect raw water quality?	Direct reduction of abstraction at drought sensitive times.	Local	Moderate	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
	To meet WFD objectives and support the achievement of environmental objectives set out in RBMPs.	- Will the action comply with flow targets? - Does the action provide a reliable and sustainable water supply which meets changing demand?	Aligned with quantitative status protection and no deterioration.	Local	Moderate	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
	To increase water efficiency and increase resilience of water supplies and natural systems to droughts.	Will the action protect and enhance the environmental resilience of the water environment to drought?	Demand matching and minimising flows to waste (e.g., backwash, clarifier blowdown) improves system efficiency and resilience.	Local	Moderate	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
Soil	To protect geological and geomorphological features, and the functionality and quality of soils, including the protection of high-grade agricultural land.	- Will the action affect high grade agricultural land? - Will the action prevent soil erosion and retain soil stocks as a natural resource? - Is the action likely to affect geodiversity, including SSSIs of geological importance?	No effect on soils.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Air	To reduce and minimise air emissions during operation.	- Is the action in an AQMA? - Will the action affect local air quality?	Lower pumping/processing energy at reduced throughput can slightly reduce energy use and associated emissions; effect size site-specific.	Local	Low	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial

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SEA topic	Proposed SEA objectives	Indicator questions	Potential residual effect on sensitive receptors commentary	Scale of effect	Certainty of effect	Duration of effect	Permanence of effect	Magnitude of effect	Value/ Sensitivity of receptor	Embedded mitigation measures	Additional mitigation measures	Residual adverse effect significance		Residual Beneficial effect significance	
Climatic factors	To minimise or reduce embodied and operational carbon and greenhouse gas emissions.	- Will the action affect carbon or other greenhouse gas emissions? - Does the action include measures to improve resilience to climate change and drought?	Less throughput often equates to lower kWh/ML and less chemical consumption (dose dependent), however efficiency non-linearities can occur at very low rates.	Local	Low	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
	To introduce climate mitigation where required and improve the climate resilience of assets and natural systems to the threats of climate change.	Will the action create catchment resilience to drought?	Improves drought adaptability via flexible production and demand management without new infrastructure.	Regional	Moderate	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
Population and human health	To maintain the health and wellbeing of the local community, including economic and social wellbeing.	- Does the action promote water efficiency and encourage a reduction in water consumption? - Will the action secure resilient water supplies for the health and wellbeing of customers?	Protects source waters and helps avoid stringent restrictions later; customer impact minimal if supply meets demand.	Regional	Low	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
	To secure resilient, high quality, sustainable and affordable water supplies over the long term for the health and wellbeing of the community.	Will the action enhance public awareness, engagement or understanding of the natural environment?	Avoids over-production; reduces risk of emergency measures; preserves storages/groundwater heads.	Regional	Moderate	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
	To connect customers to the natural environment, provide education or information resources for the public.	Will the action maintain or enhance the quality, accessibility and use of the water environment for recreation, tourism and navigation?	Action does not provide education or information resources for connecting customers to the natural environment.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To maintain the water environment for other users including recreation, tourism and navigation.		Flow support aids navigation depths and recreational quality during drought.	Regional	Low	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
Historic environment	To conserve and protect the historic environment and heritage assets, and their settings, including archaeologically important sites.	- Will the action affect designated, non-designated heritage assets of archaeological interest that are demonstrably of equivalent significance to scheduled monuments or other non-designated historic assets? - Will the action affect the setting and/or significance of a historic asset? - Will the action affect archaeology (including unknown archaeology)? - Will the action alter the hydrological conditions of water-dependent heritage assets, including organic remains?	No effect on historic environment.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Landscape	To conserve and protect landscape and townscape character and visual amenity.	- Will the action have an effect on the character of the landscape, townscape or seascape, including tranquillity and views? - Will the action protect and enhance designated landscapes and features?	No effect on landscape.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Material assets	To reduce, and make more efficient, the consumption of resources, and minimise the generation of waste.	- Will the action reuse existing infrastructure? - Will the action minimise the use of resources and generation of waste?	Lower abstraction, reduced process water to waste, potential chemical savings; no additional waste streams.	Local	Low	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
	Avoid adverse effects on built assets and infrastructure	Will the action affect other services or assets such as utilities and transport network?	Running at low turndown can challenge some legacy plants (e.g., clarifier hydraulics, filter backwash regimes).	Local	Low	Short-term	Temporary	Low loss/change	Low			-	Minor adverse	0	Neutral

1.1.10 Reduce Ship Watering

SEA topic	Proposed SEA objectives	Indicator questions	Potential residual effect on sensitive receptors commentary	Scale of effect	Certainty of effect	Duration of effect	Permanence of effect	Magnitude of effect	Value/ Sensitivity of receptor	Embedded mitigation measures	Additional mitigation measures	Residual adverse effect significance		Residual Beneficial effect significance	
Biodiversity, Flora and Fauna	To protect and enhance biodiversity, ecological functions, capacity and habitat connectivity, including protecting designated sites and their qualifying features, priority species and priority habitats.	- Is the action likely to affect the conservation status of any internationally, nationally or locally designated sites? - Is the action likely to contribute to or conflict with the targets and conservation objectives for designated sites?	Reducing ship watering decreases non-essential abstraction during drought, supporting environmental flows.	Regional	Moderate	Short-term	Temporary	Low enhancement	Low	- Application of reasonable and best-practice mitigation measures/methods. - Compliance with regulatory standards and existing licence conditions and with WFD no-deterioration requirements. - Use of standard operational best practice. - Application of monitoring proposals, where relevant, to ensure environmental protection (e.g., flow, water quality, ecological indicators).	None required.	0	Neutral	+	Minor beneficial
	To provide opportunities for habitat creation or restoration.	Will the action protect and enhance aquatic habitats and species, including freshwater fisheries?	Action does not directly create habitat.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To avoid introducing or spreading and, where feasible, manage INNS.	- Will the action enhance aquatic, transitional and terrestrial ecosystems? - Does the action provide opportunities for habitat creation or restoration? - Is the action likely to affect ancient woodland, Section 41 of the NERC act habitats and species of principal importance for the purpose of conserving biodiversity?	The action itself does not introduce INNS. A possible indirect risk is if ships source water elsewhere (different ports) and bring it in via tanks/ballast with suboptimal biosecurity. However, this is negligible.	Regional	Low	Short-term	Temporary	No impact or impact does not affect	Low			0	Neutral	0	Neutral
	To meet WFD objectives relating to biodiversity and targets and conservation objectives of designated sites.	- Will the action affect any habitats that support legally protected species or species of conservation concern? - Is there a possibility for INNS to be spread/introduced or for algal blooms to occur?	Temporary reduction in abstraction reduces pressure on status elements (hydrology dependent). Aligns with no-deterioration and supporting good ecological status/potential.	Regional	Low	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
Water	To maintain the quality of surface water and groundwater bodies, including meeting WFD objectives for water chemistry and supporting the objectives of groundwater-dependent sites.	- Will the action affect surface water quality or quantity? - Will the action affect ground water quality or quantity? - Is the action likely to contribute to or conflict with the achievement of WFD objectives?	Supporting baseflows can reduce stagnation/thermal stress and pollutant concentration.	Regional	Moderate	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
	To maintain surface water and groundwater flows and quantity.	- Will the action affect wetlands and Groundwater Dependent Terrestrial Ecosystems? - Will the action affect raw water quality? - Will the action comply with flow targets? - Does the action provide a reliable and sustainable water supply which meets changing demand?	Direct reduction in non-essential abstraction at times of hydrological stress.	Regional	Moderate	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
	To meet WFD objectives and support the achievement of environmental objectives set out in RBMPs.	Will the action protect and enhance the environmental resilience of the water environment to drought?	The measure is consistent with WFD and RBMP principles by avoiding additional abstraction pressure during drought. It aligns with good practice in drought management and supports no deterioration.	Regional	Moderate	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
	To increase water efficiency and increase resilience of water supplies and natural systems to droughts.		The action contributes to water efficiency by reducing discretionary demand, but the small scale of saving means it does not materially improve system-wide drought resilience.	Regional	Low	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
Soil	To protect geological and geomorphological features, and the functionality and quality of soils, including the protection of high-grade agricultural land.	- Will the action affect high grade agricultural land? - Will the action prevent soil erosion and retain soil stocks as a natural resource? - Is the action likely to affect geodiversity, including SSSIs of geological importance?	No ground works; no physical land take or runoff changes.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Air	To reduce and minimise air emissions during operation.	- Is the action in an AQMA? - Will the action affect local air quality?	Action will have no impact on air quality.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral

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SEA topic	Proposed SEA objectives	Indicator questions	Potential residual effect on sensitive receptors commentary	Scale of effect	Certainty of effect	Duration of effect	Permanence of effect	Magnitude of effect	Value/ Sensitivity of receptor	Embedded mitigation measures	Additional mitigation measures	Residual adverse effect significance		Residual Beneficial effect significance	
Climatic factors	To minimise or reduce embodied and operational carbon and greenhouse gas emissions.	- Will the action affect carbon or other greenhouse gas emissions? - Does the action include measures to improve resilience to climate change and drought?	No effect on carbon emissions.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To introduce climate mitigation where required and improve the climate resilience of assets and natural systems to the threats of climate change.	Will the action create catchment resilience to drought?	The measure aligns with responsible drought management but does not materially enhance climate resilience due to the small scale of saving.	Regional	Moderate	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
Population and human health	To maintain the health and wellbeing of the local community, including economic and social wellbeing.	- Does the action promote water efficiency and encourage a reduction in water consumption? - Will the action secure resilient water supplies for the health and wellbeing of customers? - Will the action enhance public awareness, engagement or understanding of the natural environment?	Reducing ship watering helps to protect river flows and water quality during drought conditions, supporting amenity value and reducing risks of odour and algal blooms. While this may result in short-term inconvenience for some port users, these effects are localised and manageable. Overall, the effect is beneficial.	Regional	Moderate	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
	To secure resilient, high quality, sustainable and affordable water supplies over the long term for the health and wellbeing of the community.	Will the action maintain or enhance the quality, accessibility and use of the water environment for recreation, tourism and navigation?	Action is a temporary measure and therefore does not have an effect on long term water supply resilience.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To connect customers to the natural environment, provide education or information resources for the public.		Action does not provide education or information resources for connecting customers to the natural environment.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To maintain the water environment for other users including recreation, tourism and navigation.		Maintaining flows/levels supports navigation depth margins and recreational quality during drought.	Regional	Low	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
Historic environment	To conserve and protect the historic environment and heritage assets, and their settings, including archaeologically important sites.	- Will the action affect designated, non-designated heritage assets of archaeological interest that are demonstrably of equivalent significance to scheduled monuments or other non-designated historic assets? - Will the action affect the setting and/or significance of a historic asset? - Will the action affect archaeology (including unknown archaeology)? - Will the action alter the hydrological conditions of water-dependent heritage assets, including organic remains?	No effect on historic environment.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Landscape	To conserve and protect landscape and townscape character and visual amenity.	- Will the action have an effect on the character of the landscape, townscape or seascape, including tranquillity and views? - Will the action protect and enhance designated landscapes and features?	No effect on landscape.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Material assets	To reduce, and make more efficient, the consumption of resources, and minimise the generation of waste.	- Will the action reuse existing infrastructure? - Will the action minimise the use of resources and generation of waste?	No effect on material assets.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral

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SEA topic	Proposed SEA objectives	Indicator questions	Potential residual effect on sensitive receptors commentary	Scale of effect	Certainty of effect	Duration of effect	Permanence of effect	Magnitude of effect	Value/ Sensitivity of receptor	Embedded mitigation measures	Additional mitigation measures	Residual adverse effect significance		Residual Beneficial effect significance	
	Avoid adverse effects on built assets and infrastructure	Will the action affect other services or assets such as utilities and transport network?	Acton would offer some protection to existing water supply infrastructure; however, this is anticipated to be negligible.	Local	Low	Short-term	Temporary	No impact or impact does not affect	Low			0	Neutral	0	Neutral

1.1.11 Removal of Temporary Use Bans (TUBs) and Non-Essential Use Bans (NEUBs) Exceptions

SEA topic	Proposed SEA objectives	Indicator questions	Potential residual effect on sensitive receptors commentary	Scale of effect	Certainty of effect	Duration of effect	Permanence of effect	Magnitude of effect	Value/ Sensitivity of receptor	Embedded mitigation measures	Additional mitigation measures	Residual adverse effect significance		Residual Beneficial effect significance	
Biodiversity, Flora and Fauna	To protect and enhance biodiversity, ecological functions, capacity and habitat connectivity, including protecting designated sites and their qualifying features, priority species and priority habitats.	- Is the action likely to affect the conservation status of any internationally, nationally or locally designated sites? - Is the action likely to contribute to or conflict with the targets and conservation objectives for designated sites? - Will the action protect and enhance aquatic habitats and species, including freshwater fisheries?	Removal of TUBs and NEUBs exceptions may reduce water abstraction during environmentally sensitive periods, relieving pressure on aquatic ecosystems. Lower abstraction supports habitats of priority species, restores ecological functions, and reduces disturbance to designated sites with flow-dependent features.	Regional	Moderate	Short-term	Temporary	Low enhancement	Low	- Application of reasonable and best-practice mitigation measures/methods. - Compliance with regulatory standards and existing licence conditions and with WFD no-deterioration requirements. - Use of standard operational best practice. - Application of monitoring proposals, where relevant, to ensure environmental protection (e.g., flow, water quality, ecological indicators).	- Consultation with affected water users (particularly in relation to other abstractors) to determine how licences are used, associated conditions and potential impacts of specific drought options. - Extensive consultation in relation to the implementation of water restrictions and bans on use.	0	Neutral	+	Minor beneficial
	To provide opportunities for habitat creation or restoration.	Will the action enhance aquatic, transitional and terrestrial ecosystems?	No pathway for habitat creation or restoration. No opportunities for habitat creation or restoration.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To avoid introducing or spreading and, where feasible, manage INNS.	Does the action provide opportunities for habitat creation or restoration?	No pathway for the introduction or spread of INNS.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To meet WFD objectives relating to biodiversity and targets and conservation objectives of designated sites.	- Is the action likely to affect ancient woodland, Section 41 of the NERC act habitats and species of principal importance for the purpose of conserving biodiversity? - Will the action affect any habitats that support legally protected species or species of conservation concern? - Is there a possibility for INNS to be spread/introduced or for algal blooms to occur?	By reducing abstraction during critical periods, the action can support WFD ecological status improvements, particularly for waterbodies failing flow-dependent indicators.	Regional	Moderate	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
Water	To maintain the quality of surface water and groundwater bodies, including meeting WFD objectives for water chemistry and supporting the objectives of groundwater-dependent sites.	- Will the action affect surface water quality or quantity? - Will the action affect ground water quality or quantity? - Is the action likely to contribute to or conflict with the achievement of WFD objectives? - Will the action affect wetlands and Groundwater Dependent Terrestrial Ecosystems?	Reduced water use can indirectly reduce treatment loads and stormwater-related pressures, but effects are negligible.	Regional	Low	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
	To maintain surface water and groundwater flows and quantity.	- Will the action affect raw water quality? - Will the action comply with flow targets?	This action is expected to have benefits maintaining surface water flows, as it decreases water consumption during periods when rivers and aquifers are most vulnerable.	Regional	Low	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
	To meet WFD objectives and support the achievement of environmental objectives set out in RBMPs.	- Does the action provide a reliable and sustainable water supply which meets changing demand? - Will the action protect and enhance the environmental resilience of the water environment to drought?	Lower water consumption during high-stress seasons aligns with RBMP measures aimed at improving flow regimes and alleviating abstraction pressure.	Regional	Low	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
	To increase water efficiency and increase resilience of water supplies and natural systems to droughts.		The measure reduces peak demand during drought, contributing to improved water availability and supporting system resilience.	Regional	Moderate	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
Soil	To protect geological and geomorphological features, and the functionality and quality of soils, including the protection of high-grade agricultural land.	- Will the action affect high grade agricultural land? - Will the action prevent soil erosion and retain soil stocks as a natural resource? - Is the action likely to affect geodiversity, including SSSIs of geological importance?	No effect.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral

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SEA topic	Proposed SEA objectives	Indicator questions	Potential residual effect on sensitive receptors commentary	Scale of effect	Certainty of effect	Duration of effect	Permanence of effect	Magnitude of effect	Value/ Sensitivity of receptor	Embedded mitigation measures	Additional mitigation measures	Residual adverse effect significance		Residual Beneficial effect significance	
Air	To reduce and minimise air emissions during operation.	- Is the action in an AQMA? - Will the action affect local air quality?	Action will have no impact on air quality.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Climatic factors	To minimise or reduce embodied and operational carbon and greenhouse gas emissions.	- Will the action affect carbon or other greenhouse gas emissions? - Does the action include measures to improve resilience to climate change and drought?	Lower water consumption reduces operational energy use and on short time is reducing the carbon or other greenhouse gas emissions, but the effect is negligible.	Regional	Low	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
	To introduce climate mitigation where required and improve the climate resilience of assets and natural systems to the threats of climate change.	Will the action create catchment resilience to drought?	Removal of TUBs and NEUBs exceptions is a demand-management tool that directly strengthens system resilience during climate-driven drought periods.	Regional	Low	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
Population and human health	To maintain the health and wellbeing of the local community, including economic and social wellbeing.	- Does the action promote water efficiency and encourage a reduction in water consumption? - Will the action secure resilient water supplies for the health and wellbeing of customers? - Will the action enhance public awareness, engagement or understanding of the natural environment? - Will the action maintain or enhance the quality, accessibility and use of the water environment for recreation, tourism and navigation?	Restrictions reduce demand and help secure water supplies during drought. While this supports overall community resilience and long-term wellbeing, the removal of TUB/NEUB exceptions may increase short-term inconvenience, economic impacts for some businesses, and place disproportionate pressures on vulnerable customers, particularly in relation to health, wellbeing and financial resilience.	Regional	Moderate	Short-term	Temporary	Low loss/change and Low enhancement	Low			-	minor adverse	+	Minor beneficial
	To secure resilient, high quality, sustainable and affordable water supplies over the long term for the health and wellbeing of the community.		The measure supports short-term reduction in peak demand during drought but does not materially influence long-term supply resilience.	Regional	Moderate	Short-term	Temporary	No impact or impact does not affect	Low			0	Neutral	0	Neutral
	To connect customers to the natural environment, provide education or information resources for the public.		No effect.	NA	NA	NA	NA	NA	NA			0	Neutral	0	Neutral
	To maintain the water environment for other users including recreation, tourism and navigation.		More sustainable flows help support recreation, tourism, fisheries, and navigation, especially during drought-risk periods.	Regional	Moderate	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
Historic environment	To conserve and protect the historic environment and heritage assets, and their settings, including archaeologically important sites.	- Will the action affect designated, non-designated heritage assets of archaeological interest that are demonstrably of equivalent significance to scheduled monuments or other non-designated historic assets? - Will the action affect the setting and/or significance of a historic asset? - Will the action affect archaeology (including unknown archaeology)? - Will the action alter the hydrological conditions of water-dependent heritage assets, including organic remains?	No effect.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Landscape	To conserve and protect landscape and townscape character and visual amenity.	- Will the action have an effect on the character of the landscape, townscape or seascape, including tranquillity and views? - Will the action protect and enhance designated landscapes and features?	No effect.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral

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SEA topic	Proposed SEA objectives	Indicator questions	Potential residual effect on sensitive receptors commentary	Scale of effect	Certainty of effect	Duration of effect	Permanence of effect	Magnitude of effect	Value/ Sensitivity of receptor	Embedded mitigation measures	Additional mitigation measures	Residual adverse effect significance		Residual Beneficial effect significance	
Material assets	To reduce, and make more efficient, the consumption of resources, and minimise the generation of waste.	- Will the action reuse existing infrastructure? - Will the action minimise the use of resources and generation of waste? - Will the action affect other services or assets such as utilities and transport network?	No effect.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	Avoid adverse effects on built assets and infrastructure		No effect.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral

1.1.12 Management of Standard Operating Policy (SOP) Storage

SEA topic	Proposed SEA objectives	Indicator questions	Potential residual effect on sensitive receptors commentary	Scale of effect	Certainty of effect	Duration of effect	Permanence of effect	Magnitude of effect	Value/ Sensitivity of receptor	Embedded mitigation measures	Additional mitigation measures	Residual adverse effect significance		Residual Beneficial effect significance	
Biodiversity, Flora and Fauna	To protect and enhance biodiversity, ecological functions, capacity and habitat connectivity, including protecting designated sites and their qualifying features, priority species and priority habitats.	- Is the action likely to affect the conservation status of any internationally, nationally or locally designated sites? - Is the action likely to contribute to or conflict with the targets and conservation objectives for designated sites? - Will the action protect and enhance aquatic habitats and species, including freshwater fisheries?	SOP storage management may reduce water abstraction during environmentally sensitive periods, relieving pressure on aquatic ecosystems. Lower abstraction supports habitats of priority species, restores ecological functions, and reduces disturbance to designated sites with flow-dependent features.	Local	Low	Short-term	Temporary	Low enhancement	Low	- Application of reasonable and best-practice mitigation measures/methods. - Compliance with regulatory standards and with WFD no-deterioration requirements. - Use of standard operational best practice. - Application of monitoring proposals, where relevant, to ensure environmental protection (e.g., flow, water quality, ecological indicators).	None required.	0	Neutral	+	Minor beneficial
	To provide opportunities for habitat creation or restoration.	Will the action enhance aquatic, transitional and terrestrial ecosystems?	SOP storage management does not provide opportunities for habitat creation or restoration.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To avoid introducing or spreading and, where feasible, manage INNS.	Does the action provide opportunities for habitat creation or restoration?	No effect.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To meet WFD objectives relating to biodiversity and targets and conservation objectives of designated sites.	- Is the action likely to affect ancient woodland, Section 41 of the NERC act habitats and species of principal importance for the purpose of conserving biodiversity? - Will the action affect any habitats that support legally protected species or species of conservation concern? - Is there a possibility for INNS to be spread/introduced or for algal blooms to occur?	By reducing abstraction during critical periods, SOP storage management can support WFD ecological status improvements, particularly for waterbodies failing flow-dependent indicators.	Local	Low	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
Water	To maintain the quality of surface water and groundwater bodies, including meeting WFD objectives for water chemistry and supporting the objectives of groundwater-dependent sites.	- Will the action affect surface water quality or quantity? - Will the action affect ground water quality or quantity? - Is the action likely to contribute to or conflict with the achievement of WFD objectives? - Will the action affect wetlands and Groundwater Dependent Terrestrial Ecosystems?	Reduced demand can indirectly reduce treatment loads and stormwater-related pressures, but effects are negligible. No direct effect on water quality.	Local	Low	Short-term	Temporary	No impact or impact does not affect	Low			0	Neutral	0	Neutral
	To maintain surface water and groundwater flows and quantity.	- Will the action affect raw water quality? - Will the action comply with flow targets?	SOP storage management is expected to have benefit to maintaining surface water flows, as it reduces pressure on rivers and aquifers during periods when they are most vulnerable.	Local	Moderate	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
	To meet WFD objectives and support the achievement of environmental objectives set out in RBMPs.	- Does the action provide a reliable and sustainable water supply which meets changing demand? - Will the action protect and enhance the environmental resilience of the water environment to drought?	Lower distraction during high-stress seasons aligns with RBMP measures aimed at improving flow regimes and alleviating abstraction pressure.	Local	Moderate	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
	To increase water efficiency and increase resilience of water supplies and natural systems to droughts.		The measure improves operational flexibility and reduces abstraction pressure during drought, supporting water resource resilience.	Local	Moderate	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
Soil	To protect geological and geomorphological features, and the functionality and quality of soils, including the protection of high-grade agricultural land.	- Will the action affect high grade agricultural land? - Will the action prevent soil erosion and retain soil stocks as a natural resource? - Is the action likely to affect geodiversity, including SSSIs of geological importance?	No effect.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral

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SEA topic	Proposed SEA objectives	Indicator questions	Potential residual effect on sensitive receptors commentary	Scale of effect	Certainty of effect	Duration of effect	Permanence of effect	Magnitude of effect	Value/ Sensitivity of receptor	Embedded mitigation measures	Additional mitigation measures	Residual adverse effect significance		Residual Beneficial effect significance	
Air	To reduce and minimise air emissions during operation.	- Is the action in an AQMA? - Will the action affect local air quality?	Action will have no impact on air quality.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Climatic factors	To minimise or reduce embodied and operational carbon and greenhouse gas emissions.	- Will the action affect carbon or other greenhouse gas emissions? - Does the action include measures to improve resilience to climate change and drought? - Will the action create catchment resilience to drought?	No effect.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To introduce climate mitigation where required and improve the climate resilience of assets and natural systems to the threats of climate change.		SOP storage management is tool that directly strengthens system resilience during climate-driven drought periods.	Local	Low	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
Population and human health	To maintain the health and wellbeing of the local community, including economic and social wellbeing.	- Does the action promote water efficiency and encourage a reduction in water consumption? - Will the action secure resilient water supplies for the health and wellbeing of customers? - Will the action enhance public awareness, engagement or understanding of the natural environment? - Will the action maintain or enhance the quality, accessibility and use of the water environment for recreation, tourism and navigation?	Supports supply stability during drought, helping maintain water availability for customers.	Local	Moderate	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
	To secure resilient, high quality, sustainable and affordable water supplies over the long term for the health and wellbeing of the community.		The action maintains system resilience during extreme events for short term and does not materially affect long-term water supply resilience.	Local	Moderate	Short-term	Temporary	No impact or impact does not affect	Low			0	Neutral	0	Neutral
	To connect customers to the natural environment, provide education or information resources for the public.		No effect.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To maintain the water environment for other users including recreation, tourism and navigation.		More sustainable flows help support recreation, tourism, fisheries, and navigation, especially during drought-risk periods.	Local	Moderate	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
Historic environment	To conserve and protect the historic environment and heritage assets, and their settings, including archaeologically important sites.	- Will the action affect designated, non-designated heritage assets of archaeological interest that are demonstrably of equivalent significance to scheduled monuments or other non-designated historic assets? - Will the action affect the setting and/or significance of a historic asset? - Will the action affect archaeology (including unknown archaeology)? - Will the action alter the hydrological conditions of water-dependent heritage assets, including organic remains?	No direct impact, as the measure does not involve physical development.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Landscape	To conserve and protect landscape and townscape character and visual amenity.	- Will the action have an effect on the character of the landscape, townscape or seascape, including tranquillity and views? - Will the action protect and enhance designated landscapes and features?	Since SOP storage management is a management measure with no new visible infrastructure, there is no effect.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Material assets	To reduce, and make more efficient, the consumption of resources, and minimise the generation of waste.	- Will the action reuse existing infrastructure? - Will the action minimise the use of resources and generation of waste?	No effect.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral

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SEA topic	Proposed SEA objectives	Indicator questions	Potential residual effect on sensitive receptors commentary	Scale of effect	Certainty of effect	Duration of effect	Permanence of effect	Magnitude of effect	Value/ Sensitivity of receptor	Embedded mitigation measures	Additional mitigation measures	Residual adverse effect significance		Residual Beneficial effect significance	
	Avoid adverse effects on built assets and infrastructure	▪ Will the action affect other services or assets such as utilities and transport network?	No effect.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral

1.1.13 Seasonal Tariffs

SEA topic	Proposed SEA objectives	Indicator questions	Potential residual effect on sensitive receptors commentary	Scale of effect	Certainty of effect	Duration of effect	Permanence of effect	Magnitude of effect	Value/ Sensitivity of receptor	Embedded mitigation measures	Additional mitigation measures	Residual adverse effect significance		Residual Beneficial effect significance	
Biodiversity, Flora and Fauna	To protect and enhance biodiversity, ecological functions, capacity and habitat connectivity, including protecting designated sites and their qualifying features, priority species and priority habitats.	- Is the action likely to affect the conservation status of any internationally, nationally or locally designated sites? - Is the action likely to contribute to or conflict with the targets and conservation objectives for designated sites? - Will the action protect and enhance aquatic habitats and species, including freshwater fisheries?	Seasonal tariffs may reduce water abstraction during environmentally sensitive periods (e.g., summer low flows), relieving pressure on aquatic ecosystems. Lower abstraction supports habitats of priority species, restores ecological functions, and reduces disturbance to designated sites with flow-dependent features.	Regional	Moderate	Short-term	Temporary	Low enhancement	Low	- Application of reasonable and best-practice mitigation measures/methods. - Compliance with regulatory standards and with WFD no-deterioration requirements. - Use of standard operational best practice. - Application of monitoring proposals, where relevant, to ensure environmental protection (e.g., flow, water quality, ecological indicators).	- Consultation with affected water users (particularly in relation to other abstractors) to determine how licences are used, associated conditions and potential impacts of specific drought options. - Extensive consultation in relation to the implementation of water restrictions and bans on use.	0	Neutral	+	Minor beneficial
	To provide opportunities for habitat creation or restoration.	- Will the action enhance aquatic, transitional and terrestrial ecosystems? - Does the action provide opportunities for habitat creation or restoration?	Tariff-based demand reduction does not provide opportunities for habitat creation or restoration.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To avoid introducing or spreading and, where feasible, manage INNS.	Is the action likely to affect ancient woodland, Section 41 of the NERC act habitats and species of principal importance for the purpose of conserving biodiversity?	No effect.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To meet WFD objectives relating to biodiversity and targets and conservation objectives of designated sites.	- Will the action affect any habitats that support legally protected species or species of conservation concern? - Is there a possibility for INNS to be spread/introduced or for algal blooms to occur?	By reducing abstraction during critical periods, seasonal tariffs can support WFD ecological status improvements, particularly for waterbodies failing flow-dependent indicators.	Regional	Moderate	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
Water	To maintain the quality of surface water and groundwater bodies, including meeting WFD objectives for water chemistry and supporting the objectives of groundwater-dependent sites.	- Will the action affect surface water quality or quantity? - Will the action affect ground water quality or quantity? - Is the action likely to contribute to or conflict with the achievement of WFD objectives? - Will the action affect wetlands and Groundwater Dependent Terrestrial Ecosystems?	Reduced demand can indirectly reduce treatment loads and stormwater-related pressures, but effects are negligible	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To maintain surface water and groundwater flows and quantity.	- Will the action affect raw water quality? - Will the action comply with flow targets? - Does the action provide a reliable and sustainable water supply which meets changing demand?	Seasonal tariffs are expected to have benefit to maintaining surface water flows, as they encourage water savings during periods when rivers and aquifers are most vulnerable.	Regional	Moderate	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
	To meet WFD objectives and support the achievement of environmental objectives set out in RBMPs.	Will the action protect and enhance the environmental resilience of the water environment to drought?	Lower demand during high-stress seasons aligns with RBMP measures aimed at improving flow regimes and alleviating abstraction pressure.	Regional	Moderate	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
	To increase water efficiency and increase resilience of water supplies and natural systems to droughts.		Seasonal tariffs encourage sustained behavioural change, improving customer efficiency and natural system resilience.	Regional	Moderate	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
Soil	To protect geological and geomorphological features, and the functionality and quality of soils, including the protection of high-grade agricultural land.	- Will the action affect high grade agricultural land? - Will the action prevent soil erosion and retain soil stocks as a natural resource? - Is the action likely to affect geodiversity, including SSSIs of geological importance?	No effect.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Air	To reduce and minimise air emissions during operation.	- Is the action in an AQMA? - Will the action affect local air quality?	Action will have no impact on air quality.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral

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SEA topic	Proposed SEA objectives	Indicator questions	Potential residual effect on sensitive receptors commentary	Scale of effect	Certainty of effect	Duration of effect	Permanence of effect	Magnitude of effect	Value/ Sensitivity of receptor	Embedded mitigation measures	Additional mitigation measures	Residual adverse effect significance		Residual Beneficial effect significance	
Climatic factors	To minimise or reduce embodied and operational carbon and greenhouse gas emissions.	- Will the action affect carbon or other greenhouse gas emissions? - Does the action include measures to improve resilience to climate change and drought?	Lower water consumption reduces operational energy use and, over time, may reduce or delay the need for carbon-intensive new infrastructure.	Regional	Moderate	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
	To introduce climate mitigation where required and improve the climate resilience of assets and natural systems to the threats of climate change.	Will the action create catchment resilience to drought?	Seasonal tariffs are a demand-management tool that directly strengthens system resilience during climate-driven drought periods.	Regional	Moderate	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
Population and human health	To maintain the health and wellbeing of the local community, including economic and social wellbeing.	- Does the action promote water efficiency and encourage a reduction in water consumption? - Will the action secure resilient water supplies for the health and wellbeing of customers?	Impacts depend on tariff design: affordability concerns for vulnerable groups if not mitigated.	Regional	Moderate	Short-term	Temporary	Low loss/change	Low			-	Minor adverse	0	Neutral
	To secure resilient, high quality, sustainable and affordable water supplies over the long term for the health and wellbeing of the community.	- Will the action enhance public awareness, engagement or understanding of the natural environment? - Will the action maintain or enhance the quality, accessibility and use of the water environment for recreation, tourism and navigation?	Improved resilience and reduced peak demand help maintain long-term availability and reduce future bill shocks associated with new infrastructure.	Regional	Moderate	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
	To connect customers to the natural environment, provide education or information resources for the public.		No effect.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To maintain the water environment for other users including recreation, tourism and navigation.		More sustainable flows help support recreation, tourism, fisheries, and navigation, especially during drought-risk periods.	Local	Moderate	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
Historic environment	To conserve and protect the historic environment and heritage assets, and their settings, including archaeologically important sites.	- Will the action affect designated, non-designated heritage assets of archaeological interest that are demonstrably of equivalent significance to scheduled monuments or other non-designated historic assets? - Will the action affect the setting and/or significance of a historic asset? - Will the action affect archaeology (including unknown archaeology)? - Will the action alter the hydrological conditions of water-dependent heritage assets, including organic remains?	No direct impact, as seasonal tariffs do not involve physical development.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Landscape	To conserve and protect landscape and townscape character and visual amenity.	- Will the action have an effect on the character of the landscape, townscape or seascape, including tranquillity and views? - Will the action protect and enhance designated landscapes and features?	Since tariffs are a demand-management measure with no new visible infrastructure, there is no effect.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Material assets	To reduce, and make more efficient, the consumption of resources, and minimise the generation of waste.	- Will the action reuse existing infrastructure? - Will the action minimise the use of resources and generation of waste? - Will the action affect other services or assets such as utilities and transport network?	Seasonal tariffs encourage reduced water consumption, effectively decreasing the use of water, chemicals, and treatment energy.	Regional	Moderate	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
	Avoid adverse effects on built assets and infrastructure		Lower peak demand reduces stress on network assets and may reduce the frequency of drought-related operational impacts.	Regional	Moderate	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial

1.1.14 Network Management

SEA topic	Proposed SEA objectives	Indicator questions	Potential residual effect on sensitive receptors commentary	Scale of effect	Certainty of effect	Duration of effect	Permanence of effect	Magnitude of effect	Value/ Sensitivity of receptor	Embedded mitigation measures	Additional mitigation measures	Residual adverse effect significance		Residual Beneficial effect significance	
Biodiversity, Flora and Fauna	To protect and enhance biodiversity, ecological functions, capacity and habitat connectivity, including protecting designated sites and their qualifying features, priority species and priority habitats.	- Is the action likely to affect the conservation status of any internationally, nationally or locally designated sites? - Is the action likely to contribute to or conflict with the targets and conservation objectives for designated sites?	The measure is internal to the potable water network and does not alter abstraction or discharge patterns. As such, it has no pathway to influence ecological flows, habitat conditions, or designated sites.	N/A	N/A	N/A	N/A	N/A	N/A	- Application of reasonable and best-practice mitigation measures/methods. - Compliance with regulatory standards and with WFD no-deterioration requirements. - Use of standard operational best practice. - Application of monitoring proposals, where relevant, to ensure environmental protection (e.g., flow, water quality, ecological indicators).	None required.	0	Neutral	0	Neutral
	To provide opportunities for habitat creation or restoration.	Will the action protect and enhance aquatic habitats and species, including freshwater fisheries?	No physical works or land-based interventions occur.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To avoid introducing or spreading and, where feasible, manage INNS.	- Will the action enhance aquatic, transitional and terrestrial ecosystems? - Does the action provide opportunities for habitat creation or restoration?	The action does not involve water transfers, construction, or material movement that could introduce INNS.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To meet WFD objectives relating to biodiversity and targets and conservation objectives of designated sites.	- Is the action likely to affect ancient woodland, Section 41 of the NERC act habitats and species of principal importance for the purpose of conserving biodiversity? - Will the action affect any habitats that support legally protected species or species of conservation concern? - Is there a possibility for INNS to be spread/introduced or for algal blooms to occur?	As the measure does not affect hydrology or water quality, it does not influence WFD ecological status or conservation objectives. Effects are neutral.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Water	To maintain the quality of surface water and groundwater bodies, including meeting WFD objectives for water chemistry and supporting the objectives of groundwater-dependent sites.	- Will the action affect surface water quality or quantity? - Will the action affect ground water quality or quantity? - Is the action likely to contribute to or conflict with the achievement of WFD objectives? - Will the action affect wetlands and Groundwater Dependent Terrestrial Ecosystems?	The measure does not change abstraction or discharge and therefore has no direct effect on water quality.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To maintain surface water and groundwater flows and quantity.	- Will the action affect raw water quality? - Will the action comply with flow targets?	Operating storage at low levels does not alter total abstraction volumes and therefore has no hydrological effect on surface or groundwater flows.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To meet WFD objectives and support the achievement of environmental objectives set out in RBMPs.	- Does the action provide a reliable and sustainable water supply which meets changing demand? - Will the action protect and enhance the environmental resilience of the water environment to drought?	The measure does not influence environmental pressures relevant to WFD or RBMP objectives.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To increase water efficiency and increase resilience of water supplies and natural systems to droughts.		Using stored potable water to buffer short-term demand variability provides some operational flexibility; however, maintaining storage at low levels increases the risk of supply failure during peak demand or unexpected outages, reducing overall system resilience. As a result, the net effect is adverse in relation to drought resilience objectives.	Regional	Moderate	Short-term	Temporary	Low loss/change	Low			-	Minor adverse	0	Neutral

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Soil	To protect geological and geomorphological features, and the functionality and quality of soils, including the protection of high-grade agricultural land.	- Will the action affect high grade agricultural land? - Will the action prevent soil erosion and retain soil stocks as a natural resource? - Is the action likely to affect geodiversity, including SSSIs of geological importance?	No ground disturbance or land-use change occurs.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Air	To reduce and minimise air emissions during operation.	- Is the action in an AQMA? - Will the action affect local air quality?	The measure does not influence energy use or emissions.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Climatic factors	To minimise or reduce embodied and operational carbon and greenhouse gas emissions.	- Will the action affect carbon or other greenhouse gas emissions? - Does the action include measures to improve resilience to climate change and drought? - Will the action create catchment resilience to drought?	The measure does not significantly affect energy consumption or carbon emissions.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To introduce climate mitigation where required and improve the climate resilience of assets and natural systems to the threats of climate change.		While the measure provides some operational flexibility to manage short-term demand fluctuations, operating storage at low levels reduces the system's buffer capacity during climate-driven drought events. This introduces a minor adverse effect on climate resilience.	Regional	Moderate	Short-term	Temporary	Low loss/change	Low			-	Minor adverse	0	Neutral
Population and human health	To maintain the health and wellbeing of the local community, including economic and social wellbeing.	- Does the action promote water efficiency and encourage a reduction in water consumption? - Will the action secure resilient water supplies for the health and wellbeing of customers? - Will the action enhance public awareness, engagement or understanding of the natural environment? - Will the action maintain or enhance the quality, accessibility and use of the water environment for recreation, tourism and navigation?	The increased risk of supply interruption associated with low storage levels presents a minor adverse effect on community wellbeing, particularly during drought when supply reliability is critical.	Regional	Moderate	Short-term	Temporary	Low loss/change	Low			-	Minor adverse	0	Neutral
	To secure resilient, high quality, sustainable and affordable water supplies over the long term for the health and wellbeing of the community.		Operating storage at low levels reduces the system's ability to absorb shocks, increasing the likelihood of supply disruption. This represents a minor adverse effect on supply resilience.	Regional	Moderate	Short-term	Temporary	Low loss/change	Low			-	Minor adverse	0	Neutral
	To connect customers to the natural environment, provide education or information resources for the public.		The measure does not involve public engagement or educational components.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To maintain the water environment for other users including recreation, tourism and navigation.		The measure does not influence river levels or water quality.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Historic environment	To conserve and protect the historic environment and heritage assets, and their settings, including archaeologically important sites.	- Will the action affect designated, non-designated heritage assets of archaeological interest that are demonstrably of equivalent significance to scheduled monuments or other non-designated historic assets? - Will the action affect the setting and/or significance of a historic asset? - Will the action affect archaeology (including unknown archaeology)? - Will the action alter the hydrological conditions of water-dependent heritage assets, including organic remains?	No physical works or environmental changes occur.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral

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SEA topic	Proposed SEA objectives	Indicator questions	Potential residual effect on sensitive receptors commentary	Scale of effect	Certainty of effect	Duration of effect	Permanence of effect	Magnitude of effect	Value/ Sensitivity of receptor	Embedded mitigation measures	Additional mitigation measures	Residual adverse effect significance		Residual Beneficial effect significance	
Landscape	To conserve and protect landscape and townscape character and visual amenity.	- Will the action have an effect on the character of the landscape, townscape or seascape, including tranquillity and views? - Will the action protect and enhance designated landscapes and features?	No visual or landscape changes occur.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Material assets	To reduce, and make more efficient, the consumption of resources, and minimise the generation of waste.	- Will the action reuse existing infrastructure? - Will the action minimise the use of resources and generation of waste? - Will the action affect other services or assets such as utilities and transport network?	The measure does not materially influence resource consumption or waste generation.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	Avoid adverse effects on built assets and infrastructure		Operating storage at low levels increases operational stress and reduces the system's ability to maintain supply during outages or peak demand, representing a minor adverse effect on infrastructure resilience.	Regional	Moderate	Short-term	Temporary	Low loss/change	Low			-	Minor adverse	0	Neutral

1.2 Supply-side actions

1.2.1 Raw Water WTW Optimisation

SEA topic	Proposed SEA objectives	Indicator questions	Potential residual effect on sensitive receptors commentary	Scale of effect	Certainty of effect	Duration of effect	Permanence of effect	Magnitude of effect	Value/ Sensitivity of receptor	Embedded mitigation measures	Additional mitigation measures	Residual adverse effect significance		Residual Beneficial effect significance	
Biodiversity, Flora and Fauna	To protect and enhance biodiversity, ecological functions, capacity and habitat connectivity, including protecting designated sites and their qualifying features, priority species and priority habitats.	- Is the action likely to affect the conservation status of any internationally, nationally or locally designated sites? - Is the action likely to contribute to or conflict with the targets and conservation objectives for designated sites? - Will the action protect and enhance aquatic habitats and species, including freshwater fisheries? - Will the action enhance aquatic, transitional and terrestrial ecosystems?	Raw water and WTW optimisation help protect biodiversity by ensuring that abstraction is redistributed and timed to reduce pressure on sensitive rivers during drought, allowing flows to be maintained within licence limits and environmental constraints. Because the action relies on adjusting existing operations rather than increasing total abstraction, and because it is governed by hands-off flows, environmental monitoring and regulatory controls, it supports ecological function and avoids adverse effects on designated sites.	Regional	Moderate	Long-term	Temporary	Low enhancement	Low	- Application of reasonable and best-practice mitigation measures/methods. - Compliance with regulatory standards and existing licence conditions and with WFD no-deterioration requirements. - Use of standard operational best practice. - Application of monitoring proposals, where relevant, to ensure environmental protection (e.g., flow, water quality, ecological indicators).	None required.	0	Neutral	+	Minor beneficial
	To provide opportunities for habitat creation or restoration.	- Does the action provide opportunities for habitat creation or restoration? - Is the action likely to affect ancient woodland, Section 41 of the NERC act habitats and species of principal importance for the purpose of conserving biodiversity?	This drought action does not create or restore habitat directly, but by optimising abstraction patterns and maintaining flows in vulnerable rivers during drought, it helps prevent habitat degradation and supports the continued functioning of existing aquatic and riparian habitats.	Regional	Moderate	Long-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
	To avoid introducing or spreading and, where feasible, manage INNS.	- Will the action affect any habitats that support legally protected species or species of conservation concern? - Is there a possibility for INNS to be spread/introduced or for algal blooms to occur?	The action involves operational adjustments within existing raw-water networks and treatment works, without creating new pathways for water movement between unconnected catchments, and because all activities follow standard Environment Agency biosecurity procedures, it does not increase the risk of introducing or spreading INNS.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To meet WFD objectives relating to biodiversity and targets and conservation objectives of designated sites.		By reducing the severity of low-flow conditions and ensuring abstraction remains within sustainable limits, raw water and WTW optimisation supports compliance with WFD ecological objectives and helps maintain conditions required to meet conservation objectives for designated sites.	Regional	Moderate	Long-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
Water	To maintain the quality of surface water and groundwater bodies, including meeting WFD objectives for water chemistry and supporting the objectives of groundwater-dependent sites.	- Will the action affect surface water quality or quantity? - Will the action affect ground water quality or quantity? - Is the action likely to contribute to or conflict with the achievement of WFD objectives? - Will the action affect wetlands and Groundwater Dependent Terrestrial Ecosystems?	Optimising raw-water sources and treatment operations helps maintain water quality by enabling the company to select the best available raw-water sources during drought and avoid over-reliance on stressed rivers. Because all changes occur within existing treatment processes and regulatory consents, the action does not adversely affect surface or groundwater quality.	Regional	Moderate	Long-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
	To maintain surface water and groundwater flows and quantity.	- Will the action affect raw water quality? - Will the action comply with flow targets? - Does the action provide a reliable and sustainable water supply which meets changing demand?	The action helps maintain flows by shifting abstraction away from vulnerable rivers during drought and making greater use of more resilient sources or stored water, while remaining within licence limits. This ensures that both surface water and groundwater quantities remain within sustainable thresholds under current operating rules.	Regional	Moderate	Long-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial

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SEA topic	Proposed SEA objectives	Indicator questions	Potential residual effect on sensitive receptors commentary	Scale of effect	Certainty of effect	Duration of effect	Permanence of effect	Magnitude of effect	Value/ Sensitivity of receptor	Embedded mitigation measures	Additional mitigation measures	Residual adverse effect significance		Residual Beneficial effect significance	
	To meet WFD objectives and support the achievement of environmental objectives set out in RBMPs.	Will the action protect and enhance the environmental resilience of the water environment to drought?	By reducing abstraction pressure on sensitive water bodies and supporting more sustainable use of available resources, the action aligns with RBMP measures and helps avoid deterioration in ecological status during drought.	Regional	Moderate	Long-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
	To increase water efficiency and increase resilience of water supplies and natural systems to droughts.		Raw water and WTW optimisation increase drought resilience by maximising the efficiency of existing assets, improving deployable output without new infrastructure, and delaying the need for more severe drought actions such as TUBs or drought permits.	Regional	Moderate	Long-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
Soil	To protect geological and geomorphological features, and the functionality and quality of soils, including the protection of high-grade agricultural land.	- Will the action affect high grade agricultural land? - Will the action prevent soil erosion and retain soil stocks as a natural resource? - Is the action likely to affect geodiversity, including SSSIs of geological importance?	The action involves operational adjustments within existing infrastructure and does not require ground disturbance, meaning soils, geomorphological features and agricultural land are unaffected by its implementation.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Air	To reduce and minimise air emissions during operation.	- Is the action in an AQMA? - Will the action affect local air quality?	Air emissions arise only from changes in pumping patterns or treatment throughput, and because these adjustments occur within existing operational ranges and do not require additional construction or transport activity, the action has minor impact on air quality.	Local	Moderate	Long-term	Temporary	Low loss/change	Low			-	Minor adverse	0	Neutral
Climatic factors	To minimise or reduce embodied and operational carbon and greenhouse gas emissions.	- Will the action affect carbon or other greenhouse gas emissions? - Does the action include measures to improve resilience to climate change and drought? - Will the action create catchment resilience to drought?	The action does not involve new construction and therefore has no embodied carbon impact, and although optimised pumping or treatment may slightly alter operational energy use, these changes remain within normal operational variability and do not materially increase greenhouse gas emissions.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To introduce climate mitigation where required and improve the climate resilience of assets and natural systems to the threats of climate change.		By improving the efficiency and flexibility of the water supply system during drought, the action directly enhances climate resilience, helping the system cope with more frequent and severe droughts without requiring additional abstraction or emergency measures.	Regional	Moderate	Long-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
Population and human health	To maintain the health and wellbeing of the local community, including economic and social wellbeing.	- Does the action promote water efficiency and encourage a reduction in water consumption? - Will the action secure resilient water supplies for the health and wellbeing of customers? - Will the action enhance public awareness, engagement or understanding of the natural environment? - Will the action maintain or enhance the quality, accessibility and use of the water environment for recreation, tourism and navigation?	By supporting reliable water supplies and reducing the likelihood of severe drought restrictions, the action contributes to public wellbeing and reduces the risk of supply interruptions, without causing adverse effects on local communities.	Regional	Moderate	Long-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
	To secure resilient, high quality, sustainable and affordable water supplies over the long term for the health and wellbeing of the community.		Raw water and WTW optimisation help maintain treated water output during drought, supporting long-term supply reliability and affordability by maximising the use of existing assets rather than relying on costly emergency measures.	Regional	Moderate	Long-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
	To connect customers to the natural environment, provide education or information resources for the public.		Although not a public-facing action, maintaining flows and water quality indirectly supports public enjoyment of rivers and reservoirs, contributing to informal environmental awareness.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral

SEA topic	Proposed SEA objectives	Indicator questions	Potential residual effect on sensitive receptors commentary	Scale of effect	Certainty of effect	Duration of effect	Permanence of effect	Magnitude of effect	Value/ Sensitivity of receptor	Embedded mitigation measures	Additional mitigation measures	Residual adverse effect significance		Residual Beneficial effect significance	
			However, this is considered negligible.												
	To maintain the water environment for other users including recreation, tourism and navigation.		By reducing pressure on sensitive rivers and helping maintain flows during drought, the action supports conditions suitable for recreation such as angling, boating and riverside walking.	Local	Moderate	Long-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
Historic environment	To conserve and protect the historic environment and heritage assets, and their settings, including archaeologically important sites.	- Will the action affect designated, non-designated heritage assets of archaeological interest that are demonstrably of equivalent significance to scheduled monuments or other non-designated historic assets? - Will the action affect the setting and/or significance of a historic asset? - Will the action affect archaeology (including unknown archaeology)? - Will the action alter the hydrological conditions of water-dependent heritage assets, including organic remains?	The action involves no new construction or physical works and therefore has no effect on designated or undesignated heritage assets, archaeological remains or their setting.; routine operational adjustments do not interact with archaeological or historic features.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Landscape	To conserve and protect landscape and townscape character and visual amenity.	- Will the action have an effect on the character of the landscape, townscape or seascape, including tranquillity and views? - Will the action protect and enhance designated landscapes and features?	As the action is entirely operational and does not involve new infrastructure or changes to the landscape, it would not affect landscape character or visual amenity.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Material assets	To reduce, and make more efficient, the consumption of resources, and minimise the generation of waste.	- Will the action reuse existing infrastructure? - Will the action minimise the use of resources and generation of waste? - Will the action affect other services or assets such as utilities and transport network?	The action improves the efficiency of existing water supply assets and generates no additional waste, as it relies solely on operational adjustments within current infrastructure. Potential for increased hydraulic loading, and changes in operational conditions that may elevate wear on existing infrastructure or require additional maintenance; however, this is anticipated as negligible.	Local	Low	Short-term	Temporary	No impact or impact does not affect	Low			0	Neutral	0	Neutral
	Avoid adverse effects on built assets and infrastructure		All optimisation occurs within existing systems and does not alter flood risk, structural stability or the operation of built assets, ensuring no adverse effects on infrastructure. Action would offer some protection to existing water supply infrastructure; however, this is anticipated to be negligible.	Local	Low	Short-term	Temporary	No impact or impact does not affect	Low			0	Neutral	0	Neutral

1.2.2 Coordination Planning

SEA topic	Proposed SEA objectives	Indicator questions	Potential residual effect on sensitive receptors commentary	Scale of effect	Certainty of effect	Duration of effect	Permanence of effect	Magnitude of effect	Value/ Sensitivity of receptor	Embedded mitigation measures	Additional mitigation measures	Residual adverse effect significance		Residual Beneficial effect significance	
Biodiversity, Flora and Fauna	To protect and enhance biodiversity, ecological functions, capacity and habitat connectivity, including protecting designated sites and their qualifying features, priority species and priority habitats.	- Is the action likely to affect the conservation status of any internationally, nationally or locally designated sites? - Is the action likely to contribute to or conflict with the targets and conservation objectives for designated sites? - Will the action protect and enhance aquatic habitats and species, including freshwater fisheries? - Will the action enhance aquatic, transitional and terrestrial ecosystems?	Coordination planning to minimise planned outage helps protect biodiversity indirectly by ensuring that key raw water sources, transfers and treatment works remain available when needed, reducing the need for sudden, reactive operational changes that could increase pressure on sensitive rivers. Because all abstractions and transfers remain within existing licence and environmental constraints, and the action is purely about scheduling and coordination, it supports stable environmental operation without introducing new ecological risks to designated sites or priority habitats and considered negligible.	N/A	N/A	N/A	N/A	N/A	N/A	- Application of reasonable and best-practice mitigation measures/methods. - Compliance with regulatory standards and existing licence conditions and with WFD no-deterioration requirements. - Use of standard operational best practice. - Application of monitoring proposals, where relevant, to ensure environmental protection (e.g., flow, water quality, ecological indicators).	None required.	0	Neutral	0	Neutral
	To provide opportunities for habitat creation or restoration.	- Does the action provide opportunities for habitat creation or restoration? - Is the action likely to affect ancient woodland, Section 41 of the NERC act habitats and species of principal importance for the purpose of conserving biodiversity?	This action is an operational planning measure and does not involve physical works or habitat interventions, so it does not create or restore habitats; however, by reducing the likelihood that unplanned outages will force higher abstraction from environmentally sensitive sources, it helps avoid deterioration of existing habitats during critical periods.	Local	Low	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
	To avoid introducing or spreading and, where feasible, manage INNS.	- Will the action affect any habitats that support legally protected species or species of conservation concern? - Is there a possibility for INNS to be spread/introduced or for algal blooms to occur?	As the action is limited to planning and coordination of outages within the existing asset base and does not create new transfer routes or physical connections, it does not alter pathways for INNS, and with standard biosecurity procedures in place at existing assets, it does not increase INNS risk.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To meet WFD objectives relating to biodiversity and targets and conservation objectives of designated sites.		By keeping more of the system reliably available and reducing the need for emergency operational changes that might otherwise concentrate abstraction on stressed water bodies, the action supports the stable, planned operation assumed in the WRMP and helps maintain conditions consistent with WFD and conservation objectives.	Local	Low	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
Water	To maintain the quality of surface water and groundwater bodies, including meeting WFD objectives for water chemistry and supporting the objectives of groundwater-dependent sites.	- Will the action affect surface water quality or quantity? - Will the action affect ground water quality or quantity? - Is the action likely to contribute to or conflict with the achievement of WFD objectives? - Will the action affect wetlands and Groundwater Dependent Terrestrial Ecosystems?	Better coordination of planned outages allows NW to choose outage timings and configurations that maintain optimal use of sources and treatment works, avoiding situations where unplanned outages force reliance on poorer-quality sources or suboptimal blending; as a result, the action supports consistent water quality in both raw and treated water without introducing new pressures on surface or groundwater quality. However, this is considered negligible.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To maintain surface water and groundwater flows and quantity.	- Will the action affect raw water quality? - Will the action comply with flow targets? - Does the action provide a reliable and sustainable water supply which meets changing demand?	By minimising the overlap of planned outages at key sources and works, the company can maintain a more balanced abstraction pattern across its portfolio, reducing the risk that outages at some assets will push higher abstraction onto more sensitive rivers or aquifers; this supports the sustainable abstraction regime set out in the WRMP and helps	Local	Low	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial

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SEA topic	Proposed SEA objectives	Indicator questions	Potential residual effect on sensitive receptors commentary	Scale of effect	Certainty of effect	Duration of effect	Permanence of effect	Magnitude of effect	Value/ Sensitivity of receptor	Embedded mitigation measures	Additional mitigation measures	Residual adverse effect significance		Residual Beneficial effect significance	
		Will the action protect and enhance the environmental resilience of the water environment to drought?	keep flows and groundwater levels within planned limits.												
	To meet WFD objectives and support the achievement of environmental objectives set out in RBMPs.		The WRMP assumes a certain level of deployable output and environmental performance based on coordinated operation of assets; by reducing unavailability due to overlapping outages, this action helps the company deliver that planned operation in practice, thereby supporting WFD and RBMP objectives that rely on sustainable, well-distributed abstraction.	Local	Low	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
	To increase water efficiency and increase resilience of water supplies and natural systems to droughts.		Minimising planned outage through coordination planning increases effective deployable output and operational flexibility, particularly in dry years, allowing the company to make better use of existing assets before resorting to more severe drought actions; this directly improves water efficiency and system resilience to drought without increasing licensed abstraction.	Local	Low	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
Soil	To protect geological and geomorphological features, and the functionality and quality of soils, including the protection of high-grade agricultural land.	- Will the action affect high grade agricultural land? - Will the action prevent soil erosion and retain soil stocks as a natural resource? - Is the action likely to affect geodiversity, including SSSIs of geological importance?	The action is purely organisational and does not involve construction, excavation or changes to land use, so it has no effect on soils, geomorphological features or agricultural land.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Air	To reduce and minimise air emissions during operation.	- Is the action in an AQMA? - Will the action affect local air quality?	Coordination planning may marginally improve operational efficiency by reducing the need for reactive pumping or emergency tanker movements, but overall, it does not significantly change the pattern of energy use or vehicle activity; any effect on air emissions is negligible and remains within normal operational variability.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Climatic factors	To minimise or reduce embodied and operational carbon and greenhouse gas emissions.	- Will the action affect carbon or other greenhouse gas emissions? - Does the action include measures to improve resilience to climate change and drought? - Will the action create catchment resilience to drought?	As the action does not involve new infrastructure, there is no embodied carbon impact, and while improved coordination may slightly reduce inefficient operational responses to outages, any change in operational carbon is small; overall, the action maintains emissions within the existing WRMP24 operational carbon envelope.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To introduce climate mitigation where required and improve the climate resilience of assets and natural systems to the threats of climate change.		By ensuring that planned maintenance is scheduled and coordinated so that critical assets remain available during periods of higher risk (e.g. summer, drought), the action strengthens the resilience of the supply system to climate-driven extremes, reducing the likelihood that outages will coincide with peak demand or low flows and thereby supporting both supply security and environmental protection.	Local	Low	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
Population and human health	To maintain the health and wellbeing of the local community, including economic and social wellbeing.	Does the action promote water efficiency and encourage a reduction in water consumption?	Minimising planned outage reduces the risk of supply interruptions or pressure problems, particularly during high-demand or drought periods, supporting public health and wellbeing by maintaining reliable water services	Local	Low	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial

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SEA topic	Proposed SEA objectives	Indicator questions	Potential residual effect on sensitive receptors commentary	Scale of effect	Certainty of effect	Duration of effect	Permanence of effect	Magnitude of effect	Value/ Sensitivity of receptor	Embedded mitigation measures	Additional mitigation measures	Residual adverse effect significance		Residual Beneficial effect significance	
		- Will the action secure resilient water supplies for the health and wellbeing of customers? - Will the action enhance public awareness, engagement or understanding of the natural environment? - Will the action maintain or enhance the quality, accessibility and use of the water environment for recreation, tourism and navigation?	without introducing new adverse effects on communities.												
	To secure resilient, high quality, sustainable and affordable water supplies over the long term for the health and wellbeing of the community.		The action directly supports the WRMP's objective of maintaining deployable output and level of service by keeping more assets available when needed, which helps sustain high-quality, reliable and cost-effective supplies without resorting prematurely to more extreme or costly drought measures.	Local	Low	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
	To connect customers to the natural environment, provide education or information resources for the public.		This is an internal operational measure and does not directly engage customers or provide educational content; its contribution is indirect, through maintaining a stable supply system that supports wider environmental and recreational benefits.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To maintain the water environment for other users including recreation, tourism and navigation.		By reducing the need for reactive, potentially environmentally suboptimal abstraction patterns during outages, the action helps maintain the planned balance of abstraction and flows that underpins recreational use, navigation and tourism on affected water bodies.	Local	Low	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
Historic environment	To conserve and protect the historic environment and heritage assets, and their settings, including archaeologically important sites.	- Will the action affect designated, non-designated heritage assets of archaeological interest that are demonstrably of equivalent significance to scheduled monuments or other non-designated historic assets? - Will the action affect the setting and/or significance of a historic asset? - Will the action affect archaeology (including unknown archaeology)? - Will the action alter the hydrological conditions of water-dependent heritage assets, including organic remains?	The action involves no physical works or changes to asset locations, so it has no effect on designated or undesignated heritage assets, archaeological remains or their setting. and does not alter any archaeological risk profile.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Landscape	To conserve and protect landscape and townscape character and visual amenity.	- Will the action have an effect on the character of the landscape, townscape or seascape, including tranquillity and views? - Will the action protect and enhance designated landscapes and features?	Because coordination planning is entirely operational and does not involve new structures or visual changes, it has no effect on landscape or townscape character or visual amenity.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Material assets	To reduce, and make more efficient, the consumption of resources, and minimise the generation of waste.	- Will the action reuse existing infrastructure? - Will the action minimise the use of resources and generation of waste? - Will the action affect other services or assets such as utilities and transport network?	By improving the scheduling and coordination of planned outages, the action makes more efficient use of existing assets, reducing the risk of redundant downtime and helping to avoid inefficient emergency responses; it does not generate additional waste and can marginally improve resource efficiency within the existing system.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	Avoid adverse effects on built assets and infrastructure		The action is specifically about managing existing built assets more effectively, reducing the risk that poorly timed outages will compromise system performance or place undue stress on parts of the network; it therefore	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral

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SEA topic	Proposed SEA objectives	Indicator questions	Potential residual effect on sensitive receptors commentary	Scale of effect	Certainty of effect	Duration of effect	Permanence of effect	Magnitude of effect	Value/ Sensitivity of receptor	Embedded mitigation measures	Additional mitigation measures	Residual adverse effect significance		Residual Beneficial effect significance	
			supports the reliable functioning of infrastructure without introducing new risks to built assets.												

1.2.3 Tankering from Whittle Dene WTW to service reservoirs to augment spring supplies at Allenheads and Carrshields WTW

SEA topic	Proposed SEA objectives	Indicator questions	Potential residual effect on sensitive receptors commentary	Scale of effect	Certainty of effect	Duration of effect	Permanence of effect	Magnitude of effect	Value/ Sensitivity of receptor	Embedded mitigation measures	Additional mitigation measures	Residual adverse effect significance		Residual Beneficial effect significance	
Biodiversity, Flora and Fauna	To protect and enhance biodiversity, ecological functions, capacity and habitat connectivity, including protecting designated sites and their qualifying features, priority species and priority habitats.	- Is the action likely to affect the conservation status of any internationally, nationally or locally designated sites? - Is the action likely to contribute to or conflict with the targets and conservation objectives for designated sites? - Will the action protect and enhance aquatic habitats and species, including freshwater fisheries?	Tankering does not involve construction or in-river works, so direct effects on habitats and designated sites are unlikely. However, increased vehicle movements may cause localised disturbance (noise, vibration) near sensitive ecological areas if tanker routes pass close to them. These effects are temporary and reversible.	Local	Moderate	Short-term	Temporary	Low loss/change	Low	- Application of reasonable and best-practice mitigation measures/methods. - Compliance with regulatory standards and existing licence conditions and with WFD no-deterioration requirements. - Use of standard operational best practice. - Avoid introducing or spreading INNS following the INNS risk assessment and biosecurity procedures. - Application of monitoring proposals, where relevant, to ensure environmental protection (e.g., flow, water quality, ecological indicators).	Use of renewable or 'clean' energy sources where practicable.	-	Minor adverse	0	Neutral
	To provide opportunities for habitat creation or restoration.	Will the action enhance aquatic, transitional and terrestrial ecosystems?	Tankering does not create or restore habitat, as it is an operational, short-term drought response action.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To avoid introducing or spreading and, where feasible, manage INNS.	- Does the action provide opportunities for habitat creation or restoration? - Is the action likely to affect ancient woodland, Section 41 of the NERC act habitats and species of principal importance for the purpose of conserving biodiversity? - Will the action affect any habitats that support legally protected species or species of conservation concern?	There is no direct pathway for spreading invasive species, as tankering uses sealed vehicles and does not involve movement of raw water between catchments unless specifically planned. If water is transferred between catchments, biosecurity protocols would be required to avoid INNS risks.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To meet WFD objectives relating to biodiversity and targets and conservation objectives of designated sites.	Is there a possibility for INNS to be spread/introduced or for algal blooms to occur?	Tankering does not directly affect water bodies, so no direct WFD ecological status impacts are expected. Indirectly, by supporting supply and reducing pressure on abstraction, tankering may help avoid deterioration of WFD water bodies during drought.	Local	Moderate	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
Water	To maintain the quality of surface water and groundwater bodies, including meeting WFD objectives for water chemistry and supporting the objectives of groundwater-dependent sites.	- Will the action affect surface water quality or quantity? - Will the action affect ground water quality or quantity? - Is the action likely to contribute to or conflict with the achievement of WFD objectives?	Tankering has no direct interaction with water bodies. Minor risks relate to fuel spills or accidental discharge during loading/unloading, but these are low with standard operational controls.	Local	Moderate	Short-term	Temporary	Low loss/change	Low			-	Minor adverse	0	Neutral
	To maintain surface water and groundwater flows and quantity.	- Will the action affect wetlands and Groundwater Dependent Terrestrial Ecosystems? - Will the action affect raw water quality? - Will the action comply with flow targets?	Tankering can reduce pressure on stressed sources by supplementing supply, helping maintain environmental flows during drought. Effects are beneficial where tankering avoids or reduces abstraction from sensitive sources.	Local	Moderate	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
	To meet WFD objectives and support the achievement of environmental objectives set out in RBMPs.	- Does the action provide a reliable and sustainable water supply which meets changing demand? - Will the action protect and enhance the environmental resilience of the water environment to drought?	By reducing reliance on drought-stressed sources, tankering can support WFD objectives by preventing deterioration in status.	Local	Moderate	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
	To increase water efficiency and increase resilience of water supplies and natural systems to droughts.		Tankering improves short-term resilience but does not increase efficiency. It is a temporary measure that helps maintain supply during drought without long-term environmental benefits.	Local	Moderate	Short-term	Temporary	No impact or impact does not affect	Low			0	Neutral	0	Neutral

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SEA topic	Proposed SEA objectives	Indicator questions	Potential residual effect on sensitive receptors commentary	Scale of effect	Certainty of effect	Duration of effect	Permanence of effect	Magnitude of effect	Value/ Sensitivity of receptor	Embedded mitigation measures	Additional mitigation measures	Residual adverse effect significance		Residual Beneficial effect significance	
Soil	To protect geological and geomorphological features, and the functionality and quality of soils, including the protection of high-grade agricultural land.	- Will the action affect high grade agricultural land? - Will the action prevent soil erosion and retain soil stocks as a natural resource? - Is the action likely to affect geodiversity, including SSSIs of geological importance?	Tankering does not involve ground disturbance, excavation or land-take. The only potential effect is localised soil contamination risk from accidental fuel or oil spills at tanker filling points, which is low with standard controls.	Local	Moderate	Short-term	Temporary	Low loss/change	Low			-	Minor adverse	0	Neutral
Air	To reduce and minimise air emissions during operation.	- Is the action in an AQMA? - Will the action affect local air quality?	Tankering requires frequent HGV movements, leading to increased vehicle emissions and localised air quality impacts near depots, roads and delivery points. These effects are temporary but adverse, particularly in urban or AQMA areas.	Local	Moderate	Short-term	Temporary	Low loss/change	Medium			-	Minor adverse	0	Neutral
Climatic factors	To minimise or reduce embodied and operational carbon and greenhouse gas emissions.	- Will the action affect carbon or other greenhouse gas emissions? - Does the action include measures to improve resilience to climate change and drought?	Tankering is carbon-intensive due to fuel use by heavy vehicles. This represents an adverse effect, though limited to the drought period.	Local	Moderate	Short-term	Temporary	Low loss/change	Low			-	Minor adverse	0	Neutral
	To introduce climate mitigation where required and improve the climate resilience of assets and natural systems to the threats of climate change.	Will the action create catchment resilience to drought?	Tankering supports operational resilience during drought, helping maintain supply when other sources are constrained. This is a beneficial effect for climate adaptation.	Local	Moderate	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
Population and human health	To maintain the health and wellbeing of the local community, including economic and social wellbeing.	- Does the action promote water efficiency and encourage a reduction in water consumption? - Will the action secure resilient water supplies for the health and wellbeing of customers? - Will the action enhance public awareness, engagement or understanding of the natural environment?	Tankering helps maintain water supply during drought, supporting public health and wellbeing. Temporary traffic increases may cause minor nuisance (noise, congestion) for local communities. However, this is considered negligible.	Local	Moderate	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
	To secure resilient, high quality, sustainable and affordable water supplies over the long term for the health and wellbeing of the community.	Will the action maintain or enhance the quality, accessibility and use of the water environment for recreation, tourism and navigation?	Tankering is a reactive temporary solution targeting drought when linked to peak demand and so does not provide long term resilience solutions.	Local	Moderate	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
	To connect customers to the natural environment, provide education or information resources for the public.		Tankering does not provide environmental education or engagement opportunities.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To maintain the water environment for other users including recreation, tourism and navigation.		By reducing abstraction pressure, tankering can help protect water bodies used for recreation and navigation.	Local	Moderate	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
Historic environment	To conserve and protect the historic environment and heritage assets, and their settings, including archaeologically important sites.	- Will the action affect designated, non-designated heritage assets of archaeological interest that are demonstrably of equivalent significance to scheduled monuments or other non-designated historic assets? - Will the action affect the setting and/or significance of a historic asset? - Will the action affect archaeology (including unknown archaeology)? - Will the action alter the hydrological conditions of water-	Tankering does not involve ground disturbance, so direct impacts on heritage assets are unlikely. Temporary traffic increases may cause minor setting impacts for heritage sites located near tanker routes, but these are short-term and reversible.	Local	Moderate	Short-term	Temporary	Low loss/change	Low			-	Minor adverse	0	Neutral

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SEA topic	Proposed SEA objectives	Indicator questions	Potential residual effect on sensitive receptors commentary	Scale of effect	Certainty of effect	Duration of effect	Permanence of effect	Magnitude of effect	Value/ Sensitivity of receptor	Embedded mitigation measures	Additional mitigation measures	Residual adverse effect significance		Residual Beneficial effect significance	
		dependent heritage assets, including organic remains?													
Landscape	To conserve and protect landscape and townscape character and visual amenity.	▪ Will the action have an effect on the character of the landscape, townscape or seascape, including tranquillity and views? ▪ Will the action protect and enhance designated landscapes and features?	Tankering has no permanent landscape effects. Temporary visual impacts may occur from increased tanker presence at depots or on rural roads, but these are minor and temporary.	Local	Moderate	Short-term	Temporary	Low loss/change	Low			-	Minor adverse	0	Neutral
Material assets	To reduce, and make more efficient, the consumption of resources, and minimise the generation of waste.	▪ Will the action reuse existing infrastructure? ▪ Will the action minimise the use of resources and generation of waste? ▪ Will the action affect other services or assets such as utilities and transport network?	Tankering requires fuel and vehicle use, so it does not reduce resource consumption. No significant waste is generated.	Local	Low	Short-term	Temporary	Low loss/change	Low			-	Minor adverse	0	Neutral
	Avoid adverse effects on built assets and infrastructure		Increased HGV movements may contribute to road wear, but impacts are minor and within normal operational tolerances.	Local	Low	Short-term	Temporary	Low loss/change	Low			-	Minor adverse	0	Neutral

1.2.4 Groundwater source optimisation (lower borehole pumps at Murton, Thronton and Bleak Ridge)

SEA topic	Proposed SEA objectives	Indicator questions	Potential residual effect on sensitive receptors commentary	Scale of effect	Certainty of effect	Duration of effect	Permanence of effect	Magnitude of effect	Value/ Sensitivity of receptor	Embedded mitigation measures	Additional mitigation measures	Residual adverse effect significance		Residual Beneficial effect significance	
Biodiversity, Flora and Fauna	To protect and enhance biodiversity, ecological functions, capacity and habitat connectivity, including protecting designated sites and their qualifying features, priority species and priority habitats.	- Is the action likely to affect the conservation status of any internationally, nationally or locally designated sites? - Is the action likely to contribute to or conflict with the targets and conservation objectives for designated sites? - Will the action protect and enhance aquatic habitats and species, including freshwater fisheries?	Abstraction volumes remain within existing licence limits, and the measure would be implemented outside critical low flow periods; therefore, no adverse effects on biodiversity, ecological function or designated sites are anticipated.	N/A	N/A	N/A	N/A	N/A	N/A	- Application of reasonable and best-practice mitigation measures/methods. - Compliance with regulatory standards and existing licence conditions and with WFD no-deterioration requirements. - Operation in accordance with agreed trigger thresholds and adaptive management procedures. - Application of monitoring proposals, where relevant, to ensure environmental protection (e.g., flow, water quality, ecological indicators).	- Further consultation and liaison with the Environment Agency. - Adjustment of abstraction regimes if monitoring indicates environmental stress.	0	Neutral	0	Neutral
	To provide opportunities for habitat creation or restoration.	Will the action enhance aquatic, transitional and terrestrial ecosystems?	The action does not include habitat creation or restoration.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To avoid introducing or spreading and, where feasible, manage INNS.	- Does the action provide opportunities for habitat creation or restoration? - Is the action likely to affect ancient woodland, Section 41 of the NERC act habitats and species of principal importance for the purpose of conserving biodiversity?	No construction or ground disturbance is required for groundwater source optimisation. The action operates through existing infrastructure and standard operational controls. Therefore, there is negligible risk of introducing or spreading INNS.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To meet WFD objectives relating to biodiversity and targets and conservation objectives of designated sites.	- Will the action affect any habitats that support legally protected species or species of conservation concern? - Is there a possibility for INNS to be spread/introduced or for algal blooms to occur?	The action operates within existing abstraction licences and WFD constraints, and no deterioration in ecological status or failure to meet conservation objectives is anticipated.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Water	To maintain the quality of surface water and groundwater bodies, including meeting WFD objectives for water chemistry and supporting the objectives of groundwater-dependent sites.	- Will the action affect surface water quality or quantity? - Will the action affect ground water quality or quantity? - Is the action likely to contribute to or conflict with the achievement of WFD objectives? - Will the action affect wetlands and Groundwater Dependent Terrestrial Ecosystems? - Will the action affect raw water quality? - Will the action comply with flow targets? - Does the action provide a reliable and sustainable water supply which meets changing demand? - Will the action protect and enhance the environmental resilience of the water environment to drought?	Operation within licence conditions and outside critical periods ensures no deterioration in WFD water quality elements. The action is rare (Level 3b trigger) and does not present cumulative pressures.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	neutral
	To maintain surface water and groundwater flows and quantity.		The action is not expected to introduce continuous or repeated pressure on groundwater or hydraulically connected surface water bodies. Due to the low frequency of implementation and operation within abstraction limits, no measurable effects on groundwater levels, baseflows or surface water flows are anticipated.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To meet WFD objectives and support the achievement of environmental objectives set out in RBMPs.		The action is compliant with WFD requirements, with no deterioration in groundwater or surface water body status. There is no deterioration in water body status or conflict with RBMP objectives.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To increase water efficiency and increase resilience of water supplies and natural systems to droughts.		Groundwater source optimisation improves operational efficiency and flexibility of the supply system, supporting resilience to drought while maintaining sustainable use of water resources.	Regional	Moderate	Medium-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial

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Soil	To protect geological and geomorphological features, and the functionality and quality of soils, including the protection of high-grade agricultural land.	- Will the action affect high grade agricultural land? - Will the action prevent soil erosion and retain soil stocks as a natural resource? - Is the action likely to affect geodiversity, including SSSIs of geological importance?	Groundwater source optimisation does not involve land take or ground disturbance. Minor, indirect geomorphological effects may occur via small changes in baseflow and sediment transport, but these are negligible.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Air	To reduce and minimise air emissions during operation.	- Is the action in an AQMA? - Will the action affect local air quality?	The action primarily utilises existing infrastructure; however, minor increases in operational emissions may occur due to additional pumping at Riding Mill. The volume of additional abstraction is small, and associated energy demand is low. As a result, any increase in emissions is negligible and does not result in measurable changes to local air quality, including within sensitive areas such as AQMAs.	Local	Low	Short-term	Temporary	No impact or impact does not affect	Low			0	Neutral	0	Neutral
Climatic factors	To minimise or reduce embodied and operational carbon and greenhouse gas emissions.	- Will the action affect carbon or other greenhouse gas emissions? - Does the action include measures to improve resilience to climate change and drought? - Will the action create catchment resilience to drought?	Lowering pumps may slightly increase pumping duration or energy use during low groundwater conditions and increase carbon footprint of machine needed to raise and lower pumps; however, changes are minor and short-term.	Regional	Low	Short-term	Temporary	Low loss/change	Low			-	Minor adverse	0	Neutral
	To introduce climate mitigation where required and improve the climate resilience of assets and natural systems to the threats of climate change.		The action enhances system flexibility and resilience to drought conditions, supporting adaptation to climate variability without introducing long-term environmental pressures.	Regional	Moderate	Long-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
Population and human health	To maintain the health and wellbeing of the local community, including economic and social wellbeing.	- Does the action promote water efficiency and encourage a reduction in water consumption? - Will the action secure resilient water supplies for the health and wellbeing of customers? - Will the action enhance public awareness, engagement or understanding of the natural environment? - Will the action maintain or enhance the quality, accessibility and use of the water environment for recreation, tourism and navigation?	Groundwater source optimisation helps maintain continuity of water supply during drought conditions, supporting public health and reducing supply risks.	Local	High	Long-term	Temporary	Low enhancement	High			0	Neutral	++	Moderate beneficial
	To secure resilient, high quality, sustainable and affordable water supplies over the long term for the health and wellbeing of the community.		The action improves system optimisation and reliability of water supply, contributing to long-term resilience and affordability.	Local	High	Long-term	Temporary	Low enhancement	High			0	Neutral	++	Moderate beneficial
	To connect customers to the natural environment, provide education or information resources for the public.		The action is operational and does not directly influence public engagement.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To maintain the water environment for other users including recreation, tourism and navigation.		No measurable effect on recreation or navigation due to negligible hydrological change.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Historic environment	To conserve and protect the historic environment and heritage assets, and their settings, including archaeologically important sites.	- Will the action affect designated, non-designated heritage assets of archaeological interest that are demonstrably of equivalent significance to scheduled monuments or other non-designated historic assets? - Will the action affect the setting and/or significance of a historic asset?	No direct or indirect impacts are anticipated.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral

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		▪ Will the action affect archaeology (including unknown archaeology)? ▪ Will the action alter the hydrological conditions of water-dependent heritage assets, including organic remains?													
Landscape	To conserve and protect landscape and townscape character and visual amenity.	▪ Will the action have an effect on the character of the landscape, townscape or seascape, including tranquillity and views? ▪ Will the action protect and enhance designated landscapes and features?	The action uses existing infrastructure and does not alter landform or landscape character. Any indirect hydrological changes are minor and not perceptible.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Material assets	To reduce, and make more efficient, the consumption of resources, and minimise the generation of waste.	▪ Will the action reuse existing infrastructure? ▪ Will the action minimise the use of resources and generation of waste? ▪ Will the action affect other services or assets such as utilities and transport network?	Groundwater source optimisation maximises use of existing infrastructure and supports efficient resource management.	Local	Low	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
	Avoid adverse effects on built assets and infrastructure.		No adverse effects are anticipated. The action supports operational resilience of water supply infrastructure.	Local	Low	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial

1.2.5 Operation of the Kielder Transfer Scheme

SEA topic	Proposed SEA objectives	Indicator questions	Potential residual effect on sensitive receptors commentary	Scale of effect	Certainty of effect	Duration of effect	Permanence of effect	Magnitude of effect	Value/ Sensitivity of receptor	Embedded mitigation measures	Additional mitigation measures	Residual adverse effect significance		Residual Beneficial effect significance	
Biodiversity, Flora and Fauna	To protect and enhance biodiversity, ecological functions, capacity and habitat connectivity, including protecting designated sites and their qualifying features, priority species and priority habitats.	- Is the action likely to affect the conservation status of any internationally, nationally or locally designated sites? - Is the action likely to contribute to or conflict with the targets and conservation objectives for designated sites?	The Kielder Transfer drought operation is predicted to have negligible impacts on biodiversity receptors. Hydrological modelling indicates no significant change in flows, with only a small, localised reduction downstream of the Tyne–Tees Transfer (TTT), and in some area’s flows are supported during drought conditions.	N/A	N/A	N/A	N/A	N/A	N/A	- Operation of the drought action in accordance with agreed trigger thresholds and adaptive management through the Drought Management Group (DMG). - Routine hydrological, water-quality and ecological monitoring through the EMP, reviewed against baseline conditions and WFD thresholds. - Operation within existing abstraction licences, drought operating rules and MMF/MRF flow controls, ensuring WFD no-deterioration compliance. - Standard operational controls, including abstraction screening and flow management. - Regulatory oversight and liaison with the Environment Agency embedded throughout drought action implementation.	- Ongoing liaison with the Environment Agency (and Natural England where relevant) if monitoring identifies unexpected environmental responses. - Targeted enhancement of groundwater, water-quality or ecological monitoring where required to reduce uncertainty and support adaptive management. - Adaptive operational response, including adjustment of the drought action only if required and in agreement with the Environment Agency. - Post-drought monitoring to confirm recovery of groundwater levels and environmental receptors to baseline conditions or within natural variability.	0	Neutral	0	Neutral
	To provide opportunities for habitat creation or restoration.	Will the action protect and enhance aquatic habitats and species, including freshwater fisheries?	The drought action does not include habitat creation.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To avoid introducing or spreading and, where feasible, manage INNS.	- Will the action enhance aquatic, transitional and terrestrial ecosystems? - Does the action provide opportunities for habitat creation or restoration?	No new pathways for the introduction or spread of INNS have been identified. Existing INNS (e.g. American mink, aquatic invertebrates) are already present within the catchments, and the drought action does not alter flow, habitat suitability, or connectivity in a way that would facilitate spread.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To meet WFD objectives relating to biodiversity and targets and conservation objectives of designated sites.	- Is the action likely to affect ancient woodland, Section 41 of the NERC act habitats and species of principal importance for the purpose of conserving biodiversity? - Will the action affect any habitats that support legally protected species or species of conservation concern? - Is there a possibility for INNS to be spread/introduced or for algal blooms to occur?	The drought action does not result in deterioration of WFD status for any assessed waterbody. All biological quality elements remain within existing class boundaries, and designated site conservation objectives are not compromised.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Water	To maintain the quality of surface water and groundwater bodies, including meeting WFD objectives for water chemistry and supporting the objectives of groundwater-dependent sites.	- Will the action affect surface water quality or quantity? - Will the action affect ground water quality or quantity? - Is the action likely to contribute to or conflict with the achievement of WFD objectives? - Will the action affect wetlands and Groundwater Dependent Terrestrial Ecosystems?	Water quality modelling shows small changes in Biochemical Oxygen Demand (BOD), ammonia and phosphate due to source blending, but no deterioration in WFD class. Dissolved oxygen remains High across all scenarios and temperatures. Groundwater dependent sites are not affected due to lack of pathway.	Regional	High	Long-term	Permanent	Low loss/change	Medium			-	Minor adverse	0	Neutral
	To maintain surface water and groundwater flows and quantity.	- Will the action affect raw water quality? - Will the action comply with flow targets?	Hydrological modelling confirms negligible changes to flows overall, with variations remaining within natural variability. In the River Wear and other reaches, the action supports flows during drought, improving resilience to low-flow conditions.	Regional	Moderate	Long-term	Permanent	Low enhancement	Medium			0	Neutral	+	Minor beneficial
	To meet WFD objectives and support the achievement of environmental objectives set out in RBMPs.	- Does the action provide a reliable and sustainable water supply which meets changing demand? - Will the action protect and enhance the environmental resilience of the water environment to drought?	The action does not cause deterioration in WFD ecological or chemical status for any assessed waterbody. Hydrological modelling shows flows are maintained within Minimum Measured Flow (MMF)/ Minimum Measured/Maintained Flow (MRF) requirements, and water quality modelling confirms that changes in ammonia, BOD and phosphate remain within existing WFD class boundaries, with dissolved oxygen remaining at High status under all scenarios. The action is therefore fully compliant with WFD no deterioration requirements and supports RBMP objectives by maintaining environmental	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral

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			conditions during drought periods. The drought action is therefore compliant with RBMP objectives and WFD environmental requirements.												
	To increase water efficiency and increase resilience of water supplies and natural systems to droughts.		The action is a strategic drought resilience measure, enabling redistribution of water and reducing reliance on environmentally sensitive sources. This enhances system resilience to future droughts, particularly under climate change.	Regional	Moderate	Long-term	Permanent	Low enhancement	Low			0	Neutral	+	Minor beneficial
Soil	To protect geological and geomorphological features, and the functionality and quality of soils, including the protection of high-grade agricultural land.	- Will the action affect high grade agricultural land? - Will the action prevent soil erosion and retain soil stocks as a natural resource? - Is the action likely to affect geodiversity, including SSSIs of geological importance?	Geomorphological impacts are low, with only temporary and localised sediment deposition changes downstream of the TTT. No long-term changes to channel form, sediment regime or riverbed function are anticipated, and natural recovery is expected during higher flow events. There are no impacts on terrestrial soils or high-grade agricultural land.	Local	Moderate	Short-term	Temporary	Low loss/change	Low			-	Minor adverse	0	Neutral
Air	To reduce and minimise air emissions during operation.	- Is the action in an AQMA? - Will the action affect local air quality?	The action uses existing infrastructure; however, increased pumping at Riding Mill to transfer water to Frosterley will result in a small increase in operational energy use and associated emissions. The volume of additional pumping is limited, and emissions remain low in the context of baseline operations. No construction or additional transport is required. As a result, changes in air pollutant emissions are negligible and no measurable effects on local air quality, including within sensitive receptors such as AQMAs, are anticipated.	Local	Low	Short-term	Temporary	No impact or impact does not affect	Low			0	Neutral	0	Neutral
Climatic factors	To minimise or reduce embodied and operational carbon and greenhouse gas emissions.	- Will the action affect carbon or other greenhouse gas emissions? - Does the action include measures to improve resilience to climate change and drought?	The action relies on existing infrastructure. however, increased pumping (including at Riding Mill and from deeper borehole abstraction) results in a minor increase in operational energy use and associated greenhouse gas emissions. No new infrastructure is required.	Regional	Low	Short-term	Temporary	Low loss/change	Low			-	Minor adverse	0	Neutral
	To introduce climate mitigation where required and improve the climate resilience of assets and natural systems to the threats of climate change.	Will the action create catchment resilience to drought?	Climate projections show increasing drought severity and reduced summer flows, and the Kielder Transfer provides adaptive capacity to maintain flows and supply resilience. The drought action is therefore a key climate adaptation measure.	Regional	Moderate	Long-term	Permanent	Low enhancement	Low			0	Neutral	+	Minor beneficial
Population and human health	To maintain the health and wellbeing of the local community, including economic and social wellbeing.	- Does the action promote water efficiency and encourage a reduction in water consumption? - Will the action secure resilient water supplies for the health and wellbeing of customers? - Will the action enhance public awareness, engagement or understanding of the natural environment? - Will the action maintain or enhance the quality, accessibility and use of the water environment for	The action ensures continued water supply during drought, supporting public health and economic stability.	Regional	Moderate	Long-term	Permanent	Low enhancement	Low			0	Neutral	+	Minor beneficial
	To secure resilient, high quality, sustainable and affordable water supplies over the long term for the health and wellbeing of the community.		The transfer scheme is central to long-term water supply resilience, particularly during severe or prolonged droughts. This supports household, commercial and public service needs without introducing new environmental pressures.	Regional	Moderate	Long-term	Permanent	Low enhancement	Low			0	Neutral	+	Minor beneficial
	To connect customers to the natural environment, provide education or information resources for the public.		River corridors remain accessible and functional for recreation, including angling, walking and tourism. However, the action does not provide education or information resources for the public.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral

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	To maintain the water environment for other users including recreation, tourism and navigation.	recreation, tourism and navigation?	Flow support ensures river systems remain usable for recreation and ecological services, with no significant disruption identified.	Regional	Moderate	Long-term	Permanent	Low enhancement	Low			0	Neutral	+	Minor beneficial
Historic environment	To conserve and protect the historic environment and heritage assets, and their settings, including archaeologically important sites.	- Will the action affect designated, non-designated heritage assets of archaeological interest that are demonstrably of equivalent significance to scheduled monuments or other non-designated historic assets? - Will the action affect the setting and/or significance of a historic asset? - Will the action affect archaeology (including unknown archaeology)? - Will the action alter the hydrological conditions of water-dependent heritage assets, including organic remains?	No construction or physical disturbance is required; therefore, no direct impacts on heritage assets are expected.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Landscape	To conserve and protect landscape and townscape character and visual amenity.	- Will the action have an effect on the character of the landscape, townscape or seascape, including tranquillity and views? - Will the action protect and enhance designated landscapes and features?	The action operates entirely within existing infrastructure and does not involve physical alteration of the river corridor or surrounding landscape. No effects on landscape character, townscape or visual amenity are predicted.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Material assets	To reduce, and make more efficient, the consumption of resources, and minimise the generation of waste.	- Will the action reuse existing infrastructure? - Will the action minimise the use of resources and generation of waste? - Will the action affect other services or assets such as utilities and transport network?	The action optimises existing water resource infrastructure, improving efficiency without requiring new assets.	Regional	Moderate	Long-term	Permanent	Low enhancement	Low			0	Neutral	+	Minor beneficial
	Avoid adverse effects on built assets and infrastructure		No adverse effects on infrastructure are identified; the action operates within existing licence conditions, maintaining asset performance and supporting operational resilience without introducing additional stress.	Regional	Moderate	Long-term	Permanent	Low enhancement	Low			0	Neutral	+	Minor beneficial

1.2.6 Bleak Ridge abstraction increase

SEA topic	Proposed SEA objectives	Indicator questions	Potential residual effect on sensitive receptors commentary	Scale of effect	Certainty of effect	Duration of effect	Permanence of effect	Magnitude of effect	Value/Sensitivity of receptor	Embedded mitigation measures	Additional mitigation measures	Residual adverse effect significance		Residual Beneficial effect significance	
Biodiversity, Flora and Fauna	To protect and enhance biodiversity, ecological functions, capacity and habitat connectivity, including protecting designated sites and their qualifying features, priority species and priority habitats.	- Is the action likely to affect the conservation status of any internationally, nationally or locally designated sites? - Is the action likely to contribute to or conflict with the targets and conservation objectives for designated sites? - Will the action protect and enhance aquatic habitats and species, including freshwater fisheries? - Will the action enhance aquatic, transitional and terrestrial ecosystems? - Does the action provide opportunities for habitat creation or restoration?	No international, national or locally designated sites occur within the Zone of Influence (Zol), and no aquatic habitats or freshwater fisheries are affected because of limited or no significant groundwater–surface water connectivity during drought conditions. Priority habitats assessed (lowland raised bog and lowland fen) are predominantly rain-fed and not directly supported by the abstraction aquifer. Minor, short term delays in groundwater level recovery cannot be ruled out, but predicted effects are low magnitude, reversible, confined to the drought duration and therefore negligible. No effects on habitat connectivity or protected species are anticipated.	Local	High	Short-term	Temporary	No impact or impact does not affect	High	- Operation of the drought abstraction in accordance with agreed trigger thresholds and adaptive management arrangements. - Routine groundwater level, groundwater quality and habitat monitoring, implemented through the EAR-defined monitoring programme and reviewed against baseline conditions and WFD thresholds. - Early-warning triggers and withdrawal protocols embedded in drought action governance, ensuring timely intervention before irreversible effects occur.	- Adjustment or cessation of the drought abstraction in accordance with permit conditions if monitoring indicates greater-than-predicted groundwater or environmental response. - Ongoing consultation and liaison with the Environment Agency and Natural England during implementation of the drought action.	0	Neutral	0	Neutral
	To provide opportunities for habitat creation or restoration.	Is the action likely to affect ancient woodland, Section 41 of the NERC act habitats and species of principal importance for the purpose of conserving biodiversity?	The action does not include habitat creation or restoration measures.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To avoid introducing or spreading and, where feasible, manage INNS.	Will the action affect any habitats that support legally protected species or species of conservation concern?	No INNS are present within the Zol, and there is no groundwater–surface water pathway by which abstraction could facilitate spread. The action does not involve water transfers or physical disturbance that could introduce INNS. Risk of spread is therefore negligible.	N/A	N/A	N/A	N/A	N/A	N/A	Operation within existing abstraction licence conditions and drought permit requirements, including WFD no-deterioration compliance.	Targeted enhancement of groundwater, water quality or habitat monitoring where required, to reduce uncertainty and support adaptive management.	0	Neutral	0	Neutral
	To meet WFD objectives relating to biodiversity and targets and conservation objectives of designated sites.	Is there a possibility for INNS to be spread/introduced or for algal blooms to occur?	The action does not affect designated sites and does not introduce new physical or hydrological pressures on biological elements. Groundwater abstraction is temporary, reversible and is supported by adaptive triggers. The EAR ² confirms no deterioration in WFD biological objectives	N/A	N/A	N/A	N/A	N/A	N/A	Time-limited implementation of the drought action (maximum six months) under an Environment Agency drought permit.		0	Neutral	0	Neutral
Water	To maintain the quality of surface water and groundwater bodies, including meeting WFD objectives for water chemistry and supporting the objectives of groundwater-dependent sites.	- Will the action affect surface water quality or quantity? - Will the action affect ground water quality or quantity? - Is the action likely to contribute to or conflict with the achievement of WFD objectives? - Will the action affect wetlands and Groundwater Dependent Terrestrial Ecosystems?	The action does not affect surface water quality due to limited or no significant groundwater–surface water connectivity. Groundwater abstraction may cause minor, temporary concentration changes; however, the groundwater body is already classified as Poor due to diffuse agricultural inputs. No further deterioration of WFD status is predicted and effects are reversible following drought cessation.	Local	Moderate	Short-term	Temporary	Low loss/change	Low	- Use of existing infrastructure only, with no land disturbance, construction or permanent modification of habitats. - Application of standard operational controls and best-practice mitigation methods, including abstraction management and monitoring quality assurance.	Post-drought monitoring to confirm recovery of groundwater levels and environmental receptors to baseline conditions or within natural variability.	-	Minor adverse	0	Neutral
	To maintain surface water and groundwater flows and quantity.	- Will the action affect raw water quality? - Will the action comply with flow targets? - Does the action provide a reliable and sustainable water supply which meets changing demand?	The increase in abstraction is short-term and limited to the abstraction aquifer at Bleak Ridge. No surface water flows are affected. Groundwater levels recover following cessation of abstraction, with no long-term change to baseline conditions.	Local	Moderate	Short-term	Temporary	Low loss/change	Low	Embedded biosecurity procedures to prevent the introduction or spread of invasive non-native species (INNS).		-	Minor adverse	0	Neutral
	To meet WFD objectives and support the achievement of environmental objectives set out in RBMPs.	Will the action protect and enhance the environmental resilience of the water environment to drought?	The action is compliant with WFD no deterioration requirements and is justified under Articles 4.6 and 4.7 during exceptional drought conditions. Monitoring and adaptive management ensure reversibility and protection of objectives.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral

² Northumbrian Water (2026). Bleak Ridge Drought Action Environmental Assessment Report (EAR). [Unpublished]. Available on request.

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	To increase water efficiency and increase resilience of water supplies and natural systems to droughts.		The action directly improves public water supply resilience during severe drought while maintaining environmental safeguards through monitoring and adaptive controls.	Regional	Moderate	Long-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
Soil	To protect geological and geomorphological features, and the functionality and quality of soils, including the protection of high-grade agricultural land.	- Will the action affect high grade agricultural land? - Will the action prevent soil erosion and retain soil stocks as a natural resource? - Is the action likely to affect geodiversity, including SSSIs of geological importance?	The action involves no ground disturbance, construction or land take. No surface works or hydrological effects on soils are present, and no changes to soil quality, erosion risk, agricultural land use or geodiversity are identified.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Air	To reduce and minimise air emissions during operation.	- Is the action in an AQMA? - Will the action affect local air quality?	The action requires installation and operation of a larger capacity pump to achieve the increased abstraction rate (3.0 Ml/d). This results in increased operational energy use and associated emissions compared to baseline conditions. No construction-related emissions or significant traffic movements are anticipated. The increase in emissions is localised, limited in scale and short-term, and does not result in measurable deterioration in local air quality.	Local	Moderate	Short-term	Temporary	Low loss/change	Low			-	Minor adverse	0	Neutral
Climatic factors	To minimise or reduce embodied and operational carbon and greenhouse gas emissions.	- Will the action affect carbon or other greenhouse gas emissions? - Does the action include measures to improve resilience to climate change and drought? - Will the action create catchment resilience to drought?	The action requires installation and operation of a larger-capacity pump to achieve the increased abstraction rate. This results in increased operational energy demand and associated greenhouse gas emissions compared to baseline conditions.	Regional	Moderate	Short-term	Temporary	Low loss/change	Low			-	Minor adverse	0	Neutral
	To introduce climate mitigation where required and improve the climate resilience of assets and natural systems to the threats of climate change.		The action provides additional operational resilience during severe drought conditions, enabling maintenance of public water supply while applying monitoring, triggers and early withdrawal to protect the water environment. This supports adaptation to increased drought severity identified in climate projections within the EAR.	Regional	Moderate	Long-term	Temporary	Low enhancement	Medium			0	Neutral	+	Minor beneficial
Population and human health	To maintain the health and wellbeing of the local community, including economic and social wellbeing.	- Does the action promote water efficiency and encourage a reduction in water consumption? - Will the action secure resilient water supplies for the health and wellbeing of customers? - Will the action enhance public awareness, engagement or understanding of the natural environment? - Will the action maintain or enhance the quality, accessibility and use of the water environment for recreation, tourism and navigation?	The action strengthens resilience of public water supply during severe drought, reducing risks to public health and wellbeing associated with supply shortfalls. No adverse environmental pathways affecting human health are identified.	Regional	Moderate	Short-term	Temporary	Medium enhancement	High			0	Neutral	++	Moderate beneficial
	To secure resilient, high quality, sustainable and affordable water supplies over the long term for the health and wellbeing of the community.		By providing a controllable increase in supply during exceptional drought conditions, the action contributes directly to maintaining reliable public water supply while ensuring environmental protections through triggers and early withdrawal.	Regional	Moderate	Long-term	Temporary	Medium enhancement	High			0	Neutral	++	Moderate beneficial
	To connect customers to the natural environment, provide education or information resources for the public.		River corridors remain accessible and functional for recreation, including angling, walking and tourism. However, the action does not provide education or information resources for the public	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To maintain the water environment for other users including recreation, tourism and navigation.		No surface water flows or levels are affected by the action due to limited or no significant groundwater–surface water connectivity. Recreation, tourism and navigation receptors are therefore unaffected.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral

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SEA topic	Proposed SEA objectives	Indicator questions	Potential residual effect on sensitive receptors commentary	Scale of effect	Certainty of effect	Duration of effect	Permanence of effect	Magnitude of effect	Value/Sensitivity of receptor	Embedded mitigation measures	Additional mitigation measures	Residual adverse effect significance		Residual Beneficial effect significance	
Historic environment	To conserve and protect the historic environment and heritage assets, and their settings, including archaeologically important sites.	- Will the action affect designated, non-designated heritage assets of archaeological interest that are demonstrably of equivalent significance to scheduled monuments or other non-designated historic assets? - Will the action affect the setting and/or significance of a historic asset? - Will the action affect archaeology (including unknown archaeology)? - Will the action alter the hydrological conditions of water-dependent heritage assets, including organic remains?	No designated or non-designated heritage assets are hydrologically dependent on the abstraction aquifer. The action involves no ground disturbance or changes to hydrological regimes affecting heritage features.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Landscape	To conserve and protect landscape and townscape character and visual amenity.	- Will the action have an effect on the character of the landscape, townscape or seascape, including tranquillity and views? - Will the action protect and enhance designated landscapes and features?	The action uses existing infrastructure and does not alter landform or landscape character. Given the limited groundwater–surface water connectivity, no perceptible changes to river flows or visual amenity are anticipated within the North Pennines National Landscape.	Local	High	Short-term	Temporary	No impact or impact does not affect	High			0	Neutral	0	Neutral
Material assets	To reduce, and make more efficient, the consumption of resources, and minimise the generation of waste.	- Will the action reuse existing infrastructure? - Will the action minimise the use of resources and generation of waste? - Will the action affect other services or assets such as utilities and transport network?	The action primarily utilises existing borehole and treatment infrastructure; however, installation of a larger-capacity pump is required to achieve the increased abstraction rate. This introduces a small, one-off increase in material use and resource consumption. No significant waste streams or ongoing resource demands beyond normal operation are generated. Overall effects are limited in scale and temporary.	Regional	Moderate	Short-term	Temporary	Low loss/change	Low			-	Minor adverse	0	Neutral
	Avoid adverse effects on built assets and infrastructure		The action does not involve physical works or changes to infrastructure beyond operational adjustments. No impacts on built assets are identified.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral

1.2.7 Burnhope Reservoir compensation reduction

SEA topic	Proposed SEA objectives	Indicator questions	Potential residual effect on sensitive receptors commentary	Scale of effect	Certainty of effect	Duration of effect	Permanence of effect	Magnitude of effect	Value/ Sensitivity of receptor	Embedded mitigation measures	Additional mitigation measures	Residual adverse effect significance		Residual Beneficial effect significance	
Biodiversity, Flora and Fauna	To protect and enhance biodiversity, ecological functions, capacity and habitat connectivity, including protecting designated sites and their qualifying features, priority species and priority habitats.	- Is the action likely to affect the conservation status of any internationally, nationally or locally designated sites? - Is the action likely to contribute to or conflict with the targets and conservation objectives for designated sites? - Will the action protect and enhance aquatic habitats and species, including freshwater fisheries? - Will the action enhance aquatic, transitional and terrestrial ecosystems? - Does the action provide opportunities for habitat creation or restoration?	The action involves a temporary reduction in compensation flow from Burnhope Reservoir, resulting in short-term reductions in flow, wetted habitat extent and hydraulic diversity within Burnhope Burn and the upper River Wear to Frosterley. Aquatic ecological receptors, particularly fish, macroinvertebrates, macrophytes and phytobenthos, may experience temporary habitat contraction, reduced riffle extent, fine sediment deposition and elevated thermal stress. Modelling and monitoring indicate that water quality remains within WFD High classification thresholds, limiting severity of ecological effects. Terrestrial priority habitats are located outside the zone of hydrological influence and are not affected. Effects are short-term, reversible and managed through avoidance of sensitive periods, adaptive monitoring and early-withdrawal triggers.	Local	Moderate	Short-term	Temporary	Low loss/change	Medium	- Avoidance of critical ecological periods, including salmonid spawning, fry emergence, otter breeding and key angling seasons. - Paired TTT operation to offset downstream flow reductions and protect ecological receptors and abstraction rights. - Operation under agreed trigger thresholds and adaptive management, with decisions taken through the NW DMG and Environment Agency oversight. - WFD-compliant operational controls, maintaining dissolved oxygen, temperature and other physico-chemical parameters within agreed thresholds. - Embedded EMP covering hydrology, water quality, fish, macroinvertebrates, geomorphology and protected species. - Routine ecological and water-quality monitoring, reviewed against baseline conditions during drought operation. - Use of existing infrastructure only, with no construction, in-channel works, land take or permanent habitat modification. - Embedded INNS prevention, including routine recording, Check–Clean–Dry mandatory biosecurity procedures and predefined expansion thresholds. - Protection of downstream abstraction rights, through pre-drought consultation, flow modelling and in-drought compliance monitoring.	- Pre-drought protected species surveys (otter and water vole) to inform avoidance and monitoring. - Enhanced in-drought monitoring, including water quality, fish-in-distress checks, macroinvertebrates and geomorphology where triggers are approached. - Early withdrawal or adjustment of the drought action, including staged reduction or cessation, if ecological, water-quality or geomorphological thresholds are exceeded. - Emergency water-quality interventions, such as temporary river aeration. - Targeted flow management, including controlled freshets to support fish migration and spawning habitat where required. - Gradual flow restoration following withdrawal, to avoid geomorphological shock. - Post-drought recovery monitoring (six, 12 and 24 months) to confirm recovery of ecological receptors. - Targeted habitat or INNS management if recovery is incomplete or expansion thresholds are exceeded. - Stakeholder liaison and post-drought environmental reporting, including angling, recreation, abstraction and economic interests.	-	Minor adverse	0	Neutral
	To provide opportunities for habitat creation or restoration.	Does the action provide opportunities for habitat creation or restoration?	The action does not include habitat creation or restoration measures.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To avoid introducing or spreading and, where feasible, manage INNS.	- Is the action likely to affect ancient woodland, Section 41 of the NERC act habitats and species of principal importance for the purpose of conserving biodiversity? - Will the action affect any habitats that support legally protected species or species of conservation concern? - Is there a possibility for INNS to be spread/introduced or for algal blooms to occur?	INNS are already present within the ZoI. The action does not introduce new pathways for invasive species, as the TTT infrastructure is long-established and no construction or transfers to new catchments occur. Reduced flows may temporarily favour stress-tolerant INNS locally; however, changes are expected to be minor, localised and reversible. Biosecurity measures are embedded within monitoring activities.	Local	Low	Short-term	Temporary	Low loss/change	Low			-	Minor adverse	0	Neutral
	To meet WFD objectives relating to biodiversity and targets and conservation objectives of designated sites.		No internationally or nationally designated ecological sites with flow dependent qualifying features are affected by the action. All affected surface water bodies are Heavily Modified Water Bodies and modelling demonstrates no deterioration in WFD biological quality elements. Effects on biological receptors are temporary and managed through monitoring and early withdrawal triggers.	Local	Low	Short-term	Temporary	Low loss/change	Low			-	Minor adverse	0	Neutral
Water	To maintain the quality of surface water and groundwater bodies, including meeting WFD objectives for water chemistry and supporting the objectives of groundwater-dependent sites.	- Will the action affect surface water quality or quantity? - Will the action affect ground water quality or quantity? - Is the action likely to contribute to or conflict with the achievement of WFD objectives?	Hydrological and water quality modelling indicates that reduced dilution during the action may result in small, temporary increases in nutrient and organic concentrations. However, all physico-chemical parameters remain within WFD High classification thresholds. Groundwater contributes to baseflow buffering but is not directly abstracted. No deterioration of WFD status is predicted.	Local	Moderate	Short-term	Temporary	Low loss/change	Low			-	Minor adverse	0	Neutral
	To maintain surface water and groundwater flows and quantity.	- Will the action affect wetlands and Groundwater Dependent Terrestrial Ecosystems? - Will the action affect raw water quality?	The action results in a temporary reduction of compensation flow in Burnhope Burn, with impacts diminishing downstream and largely offset by the TTT transfer at Frosterley. Reservoir and river levels recover following cessation of the action.	Regional	Moderate	Short-term	Temporary	Low loss/change	Medium			-	Minor adverse	0	Neutral
	To meet WFD objectives and support the achievement of environmental objectives set out in RBMPs.	- Will the action comply with flow targets? - Does the action provide a reliable and sustainable	The action is compliant with WFD no-deterioration requirements. Monitoring and adaptive management ensure reversibility, with provision for early withdrawal if ecological thresholds are approached.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral

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	To increase water efficiency and increase resilience of water supplies and natural systems to droughts.	water supply which meets changing demand? Will the action protect and enhance the environmental resilience of the water environment to drought?	The action conserves reservoir storage and supports public water supply resilience during drought while maintaining environmental safeguards.	Regional	Moderate	Medium-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
Soil	To protect geological and geomorphological features, and the functionality and quality of soils, including the protection of high-grade agricultural land.	- Will the action affect high grade agricultural land? - Will the action prevent soil erosion and retain soil stocks as a natural resource? - Is the action likely to affect geodiversity, including SSSIs of geological importance?	The action involves no construction, excavation, ground disturbance, land take or surface works. No changes to soil structure, erosion processes, agricultural land use or geodiversity are anticipated.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Air	To reduce and minimise air emissions during operation.	- Is the action in an AQMA? - Will the action affect local air quality?	The action is an operational change using existing infrastructure; however, minor increases in emissions may occur due to additional pumping at Riding Mill. The volume of additional abstraction and associated energy demand is very small and remains within the range of normal operational variability. No construction, additional transport or new emission sources are required.	Local	Low	Short-term	Temporary	No impact or impact does not affect	Low			0	Neutral	0	Neutral
Climatic factors	To minimise or reduce embodied and operational carbon and greenhouse gas emissions.	- Will the action affect carbon or other greenhouse gas emissions? - Does the action include measures to improve resilience to climate change and drought? - Will the action create catchment resilience to drought?	The action does not involve new assets or construction and relies on existing infrastructure. Any operational energy use is comparable to baseline water resource operations. No change in greenhouse gas emissions is identified in the EAR.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To introduce climate mitigation where required and improve the climate resilience of assets and natural systems to the threats of climate change.		The action conserves reservoir storage and maintains public water supply during severe and prolonged drought, supporting adaptation to increasing drought frequency identified in climate projections. Environmental safeguards ensure ecosystems recover following cessation.	Regional	Moderate	Medium-term	Temporary	Low enhancement	Medium			0	Neutral	+	Minor beneficial
Population and human health	To maintain the health and wellbeing of the local community, including economic and social wellbeing.	- Does the action promote water efficiency and encourage a reduction in water consumption? - Will the action secure resilient water supplies for the health and wellbeing of customers? - Will the action enhance public awareness, engagement or understanding of the natural environment? - Will the action maintain or enhance the quality, accessibility and use of the water environment for recreation, tourism and navigation?	By safeguarding continuity of public water supply during drought, the action supports public health and social wellbeing. No pollution pathways or health risks are introduced.	Regional	Moderate	Medium-term	Temporary	Low enhancement	High			0	Neutral	++	Moderate beneficial
	To secure resilient, high quality, sustainable and affordable water supplies over the long term for the health and wellbeing of the community.		The action strengthens supply resilience during exceptional drought while maintaining environmental protection and WFD compliance.	Regional	Moderate	Medium-term	Temporary	Low enhancement	High			0	Neutral	++	Moderate beneficial
	To connect customers to the natural environment, provide education or information resources for the public.		The action maintains unrestricted access to rivers and reservoirs, retaining existing opportunities for customers to experience the natural environment. However, the action does not provide education or information resources for the public.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To maintain the water environment for other users including recreation, tourism and navigation.		Reduced flows may temporarily affect angling and amenity value during drought periods; however, effects are localised, short-term and reversible, with downstream flows supported by the TTT.	Local	Low	Short-term	Temporary	Low loss/change	Low			-	Minor adverse	0	Neutral
Historic environment	To conserve and protect the historic environment and	Will the action affect designated, non-	No construction or physical disturbance is required; therefore, no direct impacts designated	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral

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	heritage assets, and their settings, including archaeologically important sites.	designated heritage assets of archaeological interest that are demonstrably of equivalent significance to scheduled monuments or other non-designated historic assets? ▪ Will the action affect the setting and/or significance of a historic asset? ▪ Will the action affect archaeology (including unknown archaeology)? ▪ Will the action alter the hydrological conditions of water-dependent heritage assets, including organic remains?	or undesignated heritage assets, archaeological remains or their setting are expected.												
Landscape	To conserve and protect landscape and townscape character and visual amenity.	▪ Will the action have an effect on the character of the landscape, townscape or seascape, including tranquillity and views? ▪ Will the action protect and enhance designated landscapes and features?	Temporary decrease in river flow may alter visual characteristics locally within the North Pennines North Pennines National Landscape (previously, Area of Outstanding Natural), but changes are negligible.	Local	Moderate	Short-term	Temporary	No impact or impact does not affect	High			0	Neutral	0	Neutral
Material assets	To reduce, and make more efficient, the consumption of resources, and minimise the generation of waste.	▪ Will the action reuse existing infrastructure? ▪ Will the action minimise the use of resources and generation of waste? ▪ Will the action affect other services or assets such as utilities and transport network?	The action uses existing infrastructure and does not affect built assets or services.	Regional	Moderate	Short-term	Temporary	No impact or impact does not affect	Low			0	Neutral	0	Neutral
	Avoid adverse effects on built assets and infrastructure		The action operates entirely within existing infrastructure and operational envelopes and does not involve construction, modification or increased loading of assets. Hydraulic assessment confirms no increase in flood risk, erosion or structural pressure. Built assets and infrastructure are therefore unaffected.	Regional	Moderate	Short-term	Temporary	No impact or impact does not affect	Low			0	Neutral	0	Neutral

1.2.8 Fontburn spate release suspension

SEA topic	Proposed SEA objectives	Indicator questions	Potential residual effect on sensitive receptors commentary	Scale of effect	Certainty of effect	Duration of effect	Permanen ce of effect	Magnitude of effect	Value/ Sensitivity of receptor	Embedded mitigation measures	Additional mitigation measures	Residual adverse effect significance	Residual Beneficial effect significance		
Biodiversity, Flora and Fauna	To protect and enhance biodiversity, ecological functions, capacity and habitat connectivity, including protecting designated sites and their qualifying features, priority species and priority habitats.	- Is the action likely to affect the conservation status of any internationally, nationally or locally designated sites? - Is the action likely to contribute to or conflict with the targets and conservation objectives for designated sites? - Will the action protect and enhance aquatic habitats and species, including freshwater fisheries? - Will the action enhance aquatic, transitional and terrestrial ecosystems? - Does the action provide opportunities for habitat creation or restoration? - Is the action likely to affect ancient woodland, Section 41 of the NERC act habitats and species of principal importance for the purpose of conserving biodiversity? - Will the action affect any habitats that support legally protected species or species of conservation concern? - Is there a possibility for INNS to be spread/introduced or for algal blooms to occur?	The Fontburn drought action involves the temporary suspension of programmed environmental spate flow releases while maintaining the annual minimum compensation flow at all times. Hydrological and hydraulic modelling demonstrates that this results in short-duration, localised reductions in flow variability and wetted habitat within the River Font, with effects progressively attenuating downstream in the River Wansbeck. Ecological assessments indicate that sensitive receptors, including fish, macroinvertebrates, macrophytes, riparian habitats and protected species, are resilient to these temporary changes. No physical modification, habitat fragmentation or loss of ecological connectivity is expected. Designated sites and priority habitats within the Zol are assessed as experiencing only minor and reversible effects, and no deterioration of ecological condition is predicted.	Local	Moderate	Short-term	Temporary	Low loss/change	Medium	- Adaptive timing of the drought action, where practicable, to avoid sensitive ecological periods (e.g. salmonid spawning and early fry development). - Maintenance of the annual minimum compensation flow at all times in accordance with licence conditions and WFD no-deterioration requirements. - Operation under agreed trigger thresholds and adaptive management arrangements, with Environment Agency oversight and DMG governance. - Implementation of the EMP covering hydrology, water quality, fish, macroinvertebrates, macrophytes, phytobenthos, geomorphology and protected species. - Embedded early-warning triggers and withdrawal protocols to prevent escalation of adverse effects.	- Consideration of controlled releases (partial re-introduction of seasonal spate flows) to support water quality, fish migration or spawning where operationally feasible. - Deployment of temporary aeration measures, to improve local dissolved oxygen conditions. - Early withdrawal, staged reduction or modification of the drought action if ecological or water-quality thresholds are exceeded. - Assessment of the need for local habitat adjustments or fish rescue and relocation where fish become stranded or isolated. - Targeted artificial spate releases to support salmonid migration or spawning where required. - Review of flow management and consideration of short-duration releases to mobilise deposited fine sediment where excessive accumulation is observed.	-	Minor adverse	0	Neutral
	To provide opportunities for habitat creation or restoration.		The action does not deliver habitat creation or restoration measures.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To avoid introducing or spreading and, where feasible, manage INNS.		The assessment identifies several invasive non-native plant species already present within the catchment. The action does not involve physical works, channel modification, or creation of new hydrological pathways, and therefore does not introduce new pathways for the spread of INNS. Reduced flow variability during drought conditions may temporarily expose marginal habitats, but limited duration and reduced flow velocities mean that the risk of enhanced INNS dispersal remains negligible.	Local	Low	Short-term	Temporary	No impact or impact does not affect	Low			0	Neutral	0	Neutral
	To meet WFD objectives relating to biodiversity and targets and conservation objectives of designated sites.		Biological elements assessed within the WFD, including fish, macroinvertebrates, macrophytes and phytobenthos, remain within their existing status classes under the action scenario. Designated sites within the Zol experience no adverse hydrological or water-quality changes that would affect their conservation objectives. All predicted effects are minor, temporary and reversible, and therefore are negligible, ensuring compliance with WFD biodiversity objectives and designated site protection requirements.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Water	To maintain the quality of surface water and groundwater bodies, including meeting WFD objectives for water chemistry and supporting the objectives of groundwater-dependent sites.	- Will the action affect surface water quality or quantity? - Will the action affect ground water quality or quantity? - Is the action likely to contribute to or conflict with the achievement of WFD objectives?	Water-quality assessment indicates that the action does not alter concentrations of key physico-chemical determinands, including dissolved oxygen, temperature, ammonia, biochemical oxygen demand and phosphate, at Q50 conditions. Spot-sample data demonstrate that baseline water	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral

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		- Will the action affect wetlands and Groundwater Dependent Terrestrial Ecosystems? - Will the action affect raw water quality?	quality is robust and remains within High or Good WFD status. Groundwater receptors were screened out due to limited connectivity, and no groundwater quality impacts are anticipated.												
	To maintain surface water and groundwater flows and quantity.	- Will the action comply with flow targets? - Does the action provide a reliable and sustainable water supply which meets changing demand? - Will the action protect and enhance the environmental resilience of the water environment to drought?	Hydrological modelling confirms that the drought action maintains the annual minimum compensation flow at all times, with changes limited to the temporary suspension of short-duration environmental spate releases. Resulting reductions in flow variability are localised to the River Font and diminish downstream in the River Wansbeck. No long-term changes to flow quantity, groundwater contribution or channel function are predicted.	Local	Moderate	Short-term	Temporary	Low loss/change	Low			-	Minor adverse	0	Neutral
	To meet WFD objectives and support the achievement of environmental objectives set out in RBMPs.		All predicted hydrological, water-quality and biological responses to the action remain within WFD compliant ranges. The action does not cause deterioration in any WFD quality element and remains consistent with RBMP objectives. Short-term changes relate solely to flow variability rather than baseline conditions, and supporting elements continue to protect ecological status and potential.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To increase water efficiency and increase resilience of water supplies and natural systems to droughts.		The action contributes to water-supply resilience by conserving reservoir storage during drought conditions while maintaining environmental protection through continued minimum compensation flows. This approach reduces pressure on the catchment during extreme low-flow periods without introducing long-term ecological impacts, supporting both supply security and environmental resilience.	Regional	Low	Medium-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
Soil	To protect geological and geomorphological features, and the functionality and quality of soils, including the protection of high-grade agricultural land.	- Will the action affect high grade agricultural land? - Will the action prevent soil erosion and retain soil stocks as a natural resource? - Is the action likely to affect geodiversity, including SSSIs of geological importance?	Geomorphological assessment indicates that the absence of spate flows during drought conditions may result in localised and short-term reductions in sediment transport competence, with potential for fine sediment deposition. These effects are limited in spatial extent, do not affect soil resources or agricultural land, and are reversible following reinstatement of normal flow conditions. No ground disturbance or land-take is associated with the action.	Local	Moderate	Short-term	Temporary	Low loss/change	Medium			-	Minor adverse	0	Neutral
Air	To reduce and minimise air emissions during operation.	- Is the action in an AQMA? - Will the action affect local air quality?	The action is an operational change to reservoir releases and does not involve construction activities, increased vehicle movements, or additional plant operation. As a result, no change in air pollutant emissions or local air quality is expected.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Climatic factors	To minimise or reduce embodied and operational carbon and greenhouse gas emissions.	- Will the action affect carbon or other greenhouse gas emissions? - Does the action include measures to improve resilience to climate change and drought? - Will the action create catchment resilience to drought?	The action involves no new infrastructure or construction and therefore has no associated embodied carbon. Operational activities remain within existing arrangements, resulting in no measurable increase in greenhouse gas emissions compared to baseline conditions.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral

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	To introduce climate mitigation where required and improve the climate resilience of assets and natural systems to the threats of climate change.		By conserving water resources during drought conditions while maintaining environmental safeguards, the action supports resilience of both water-supply infrastructure and aquatic ecosystems to climate-driven hydrological stress. All ecological effects are temporary, and recovery is expected following return to normal hydrological conditions.	Regional	Low	Medium-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
Population and human health	To maintain the health and wellbeing of the local community, including economic and social wellbeing.	- Does the action promote water efficiency and encourage a reduction in water consumption? - Will the action secure resilient water supplies for the health and wellbeing of customers? - Will the action enhance public awareness, engagement or understanding of the natural environment?	The action supports continuity and security of public water supply during drought conditions while maintaining environmental protection through continued minimum compensation flows and trigger based adaptive management. No adverse effects on public health, social wellbeing, recreation, amenity or local economic activity are anticipated.	Regional	Moderate	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
	To secure resilient, high quality, sustainable and affordable water supplies over the long term for the health and wellbeing of the community.	Will the action maintain or enhance the quality, accessibility and use of the water environment for recreation, tourism and navigation?	The action strengthens public water-supply resilience during exceptional drought by conserving reservoir storage while maintaining environmental safeguards and compliance with WFD no-deterioration requirements. This supports the continued provision of high-quality and affordable water supplies without introducing long-term environmental harm.	Regional	Moderate	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
	To connect customers to the natural environment, provide education or information resources for the public.		The action maintains continued access to rivers, reservoirs and associated recreational areas, ensuring that existing opportunities for customers to experience and enjoy the natural environment are retained during implementation. However, action does not provide education or information resources for the public.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To maintain the water environment for other users including recreation, tourism and navigation.		The action does not restrict access to the water environment or affect navigation, recreation or tourism activities. Short-term changes in flow variability associated with suspension of spate releases are localised, temporary and within the range of natural drought conditions, and therefore negligible.	Local	Low	Short-term	Temporary	No impact or impact does not affect	Low			0	Neutral	0	Neutral
Historic environment	To conserve and protect the historic environment and heritage assets, and their settings, including archaeologically important sites.	- Will the action affect designated, non-designated heritage assets of archaeological interest that are demonstrably of equivalent significance to scheduled monuments or other non-designated historic assets? - Will the action affect the setting and/or significance of a historic asset? - Will the action affect archaeology (including unknown archaeology)? - Will the action alter the hydrological conditions of water-dependent heritage assets, including organic remains?	The action does not involve ground disturbance, construction or modification of river morphology. Hydrological changes are limited to minor, short-term variability in flows and do not pose a risk to designated or undesignated heritage assets, archaeological remains or their settings.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral

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SEA topic	Proposed SEA objectives	Indicator questions	Potential residual effect on sensitive receptors commentary	Scale of effect	Certainty of effect	Duration of effect	Permanence of effect	Magnitude of effect	Value/ Sensitivity of receptor	Embedded mitigation measures	Additional mitigation measures	Residual adverse effect significance		Residual Beneficial effect significance	
Landscape	To conserve and protect landscape and townscape character and visual amenity.	▪ Will the action have an effect on the character of the landscape, townscape or seascape, including tranquillity and views? ▪ Will the action protect and enhance designated landscapes and features?	No visible works, changes to landform or alterations to landscape character occur as a result of the action; temporary changes in flow variability may slightly influence visual characteristics locally but remain within natural drought variability and are not perceptible at the landscape scale.	Local	Low	Short-term	Temporary	No impact or impact does not affect	Medium			0	Neutral	0	Neutral
Material assets	To reduce, and make more efficient, the consumption of resources, and minimise the generation of waste.	▪ Will the action reuse existing infrastructure? ▪ Will the action minimise the use of resources and generation of waste? ▪ Will the action affect other services or assets such as utilities and transport network?	The action makes use of existing infrastructure and operational controls and does not require new materials or generate waste. By conserving water during drought conditions, it contributes to more efficient use of available resources without affecting other services or assets.	Regional	Low	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
	Avoid adverse effects on built assets and infrastructure		The action does not affect built assets, infrastructure or utilities. Hydraulic modelling confirms no increase in flood risk or erosion pressure, and all operational changes occur within the designed performance envelope of existing infrastructure.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral

1.2.9 Derwent spate release suspension

SEA topic	Proposed SEA objectives	Indicator questions	Potential residual effect on sensitive receptors commentary	Scale of effect	Certainty of effect	Duration of effect	Permanence of effect	Magnitude of effect	Value/ Sensitivity of receptor	Embedded mitigation measures	Additional mitigation measures	Residual adverse effect significance		Residual Beneficial effect significance	
Biodiversity, Flora and Fauna	To protect and enhance biodiversity, ecological functions, capacity and habitat connectivity, including protecting designated sites and their qualifying features, priority species and priority habitats.	- Is the action likely to affect the conservation status of any internationally, nationally or locally designated sites? - Is the action likely to contribute to or conflict with the targets and conservation objectives for designated sites? - Will the action protect and enhance aquatic habitats and species, including freshwater fisheries? - Will the action enhance aquatic, transitional and terrestrial ecosystems? - Does the action provide opportunities for habitat creation or restoration?	The action temporarily suspends environmental spate flow releases while maintaining the statutory minimum compensation flow. Hydrological and hydraulic modelling demonstrates that effects are limited to short-duration reductions in flow variability during periods when spate releases would otherwise occur. Ecological receptors within the Zol, including fish (salmonids and other rheophilic species), macroinvertebrates, macrophytes, phytobenthos, riparian habitats and designated sites, experience only localised, temporary and reversible changes. Baseline ecological communities are adapted to a regulated flow regime, and no new long-term pressures are introduced. Habitat connectivity is maintained, including continued fish-pass operation and unchanged baseline flows.	Local	Moderate	Short-term	Temporary	Low loss/change	Low	- Adaptive timing of the drought action where practicable, to avoid known sensitive ecological periods (e.g. salmonid spawning and early fry development). - Maintenance of statutory minimum compensation flows and licence compliance. - Compliance with WFD no-deterioration requirements and River Basin Management Plan objectives. - Operation under agreed trigger thresholds and adaptive management arrangements with EA oversight. - Implementation of the EMP, covering hydrology, water quality, fish, macroinvertebrates, macrophytes/ phytobenthos and habitat condition, to provide early warning of emerging risks. - Use of existing infrastructure and operational controls only, with no construction, ground disturbance, inter-catchment transfers or permanent habitat modification and no additional energy demand.	- Targeted, short-duration flow releases may be used where necessary to support river conditions, water quality or fish movement, subject to Environment Agency agreement. - Temporary aeration may be deployed to address low dissolved oxygen conditions as an initial response. - The drought action may be reviewed, modified or withdrawn if monitoring shows unacceptable environmental effects. - Fish rescue or relocation may be considered as a last resort where severe, localised fish distress is observed. - Targeted flow releases may be used to support fish migration, spawning habitat or to address localised sediment accumulation where required and agreed with the Environment Agency.	-	Minor adverse	0	Neutral
	To provide opportunities for habitat creation or restoration.	- Is the action likely to affect ancient woodland, Section 41 of the NERC act habitats and species of principal importance for the purpose of conserving biodiversity? - Will the action affect any habitats that support legally protected species or species of conservation concern? - Is there a possibility for INNS to be spread/introduced or for algal blooms to occur?	The action does not deliver habitat creation or restoration measures.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To avoid introducing or spreading and, where feasible, manage INNS.		No new pathways for INNS spread are introduced. Minor exposure of marginal habitats may occur, but effects are negligible, localised and reversible.	Local	Low	Short-term	Temporary	No impact or impact does not affect	Low			0	Neutral	0	Neutral
	To meet WFD objectives relating to biodiversity and targets and conservation objectives of designated sites.		Hydrological, hydraulic and ecological assessments confirm no deterioration in WFD biological elements or ecological potential. Designated sites (SSSI, National Nature Reserve) experience no change to inundation patterns or hydrological support.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Water	To maintain the quality of surface water and groundwater bodies, including meeting WFD objectives for water chemistry and supporting the objectives of groundwater-dependent sites.	- Will the action affect surface water quality or quantity? - Will the action affect ground water quality or quantity? - Is the action likely to contribute to or conflict with the achievement of WFD objectives? - Will the action affect wetlands and Groundwater Dependent Terrestrial Ecosystems?	The action does not alter Q50 flows or introduce new pollutant sources. Water quality remains within baseline variability, with potential for slight improvement in downstream water quality, due to reduced release of reservoir water with moderate phosphorus levels.	Local	Low	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
	To maintain surface water and groundwater flows and quantity.	- Will the action affect raw water quality? - Will the action comply with flow targets?	Compensation flows remain unchanged; however, temporary suspension of spate releases reduces flow variability locally. Effects are short-term, within the range of natural drought variability and fully reversible.	Local	Moderate	Short-term	Temporary	Low loss/change	Low			-	Minor adverse	0	Neutral
	To meet WFD objectives and support the achievement of environmental objectives set out in RBMPs.	- Does the action provide a reliable and sustainable water supply which meets changing demand? - Will the action protect and enhance the environmental resilience of the water environment to drought?	The action does not cause deterioration in any WFD element and does not prevent achievement of Good Ecological Potential.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To increase water efficiency and increase resilience of water supplies and natural systems to droughts.		The action directly supports public water supply resilience by conserving reservoir storage during drought. Natural systems remain within tolerable hydrological ranges.	Regional	Low	Short-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial

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Soil	To protect geological and geomorphological features, and the functionality and quality of soils, including the protection of high-grade agricultural land.	- Will the action affect high grade agricultural land? - Will the action prevent soil erosion and retain soil stocks as a natural resource? - Is the action likely to affect geodiversity, including SSSIs of geological importance?	Suspension of spate flows reduces short-term sediment mobilisation but does not alter long-term geomorphological processes. No soil loss, erosion risk or impact to geological SSSI features and therefore effects are negligible.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Air	To reduce and minimise air emissions during operation.	- Is the action in an AQMA? - Will the action affect local air quality?	The action involves no construction, vehicle movements or operational emissions. No change to air quality.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
Climatic factors	To minimise or reduce embodied and operational carbon and greenhouse gas emissions.	- Will the action affect carbon or other greenhouse gas emissions? - Does the action include measures to improve resilience to climate change and drought?	No physical works or additional pumping are required; therefore, no embodied carbon is generated. Operational carbon remains unchanged.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To introduce climate mitigation where required and improve the climate resilience of assets and natural systems to the threats of climate change.	Will the action create catchment resilience to drought?	By conserving reservoir storage during severe drought conditions, the action enhances system-level resilience to climate-driven drought risk. Ecological systems remain within tolerable hydrological ranges and recover following reinstatement of normal flow regimes.	Regional	Moderate	Long-term	Temporary	Low enhancement	Low			0	Neutral	+	Minor beneficial
Population and human health	To maintain the health and wellbeing of the local community, including economic and social wellbeing.	Does the action promote water efficiency and encourage a reduction in water consumption?	The action supports continuity of public water supply during drought conditions. No adverse effects on public health, recreation, amenity or local economic activity are anticipated.	Regional	Moderate	Medium-term	Temporary	Low enhancement	Medium			0	Neutral	+	Minor beneficial
	To secure resilient, high quality, sustainable and affordable water supplies over the long term for the health and wellbeing of the community.	- Will the action secure resilient water supplies for the health and wellbeing of customers? - Will the action enhance public awareness, engagement or understanding of the natural environment?	The action is explicitly designed to protect supply during drought conditions. No adverse effects on drinking water quality.	Regional	Moderate	Short-term	Temporary	Medium enhancement	High			0	Neutral	++	Moderate beneficial
	To connect customers to the natural environment, provide education or information resources for the public.	Will the action maintain or enhance the quality, accessibility and use of the water environment for recreation, tourism and navigation?	No enhancement is delivered, but no loss of access or amenity occurs. Information on drought management is communicated through existing channels.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	To maintain the water environment for other users including recreation, tourism and navigation.		Minor, temporary changes to angling conditions may occur but are negligible. Reservoir-based recreation unaffected.	Local	Low	Short-term	Temporary	No impact or impact does not affect	Medium			0	Neutral	0	Neutral
Historic environment	To conserve and protect the historic environment and heritage assets, and their settings, including archaeologically important sites.	- Will the action affect designated, non-designated heritage assets of archaeological interest that are demonstrably of equivalent significance to scheduled monuments or other non-designated historic assets? - Will the action affect the setting and/or significance of a historic asset? - Will the action affect archaeology (including unknown archaeology)? - Will the action alter the hydrological conditions of water-dependent heritage	There are no physical works or changes affecting heritage features. The drought action will have no impact on designated or undesignated heritage assets, archaeological remains or their settings.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral

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		assets, including organic remains?													
Landscape	To conserve and protect landscape and townscape character and visual amenity.	Will the action have an effect on the character of the landscape, townscape or seascape, including tranquillity and views? Will the action protect and enhance designated landscapes and features?	No physical change to landform, vegetation or infrastructure. Temporary changes in river levels are visually negligible.	Local	Low	Short-term	Temporary	No impact or impact does not affect	Medium			0	Neutral	0	Neutral
Material assets	To reduce, and make more efficient, the consumption of resources, and minimise the generation of waste.	Will the action reuse existing infrastructure? Will the action minimise the use of resources and generation of waste? Will the action affect other services or assets such as utilities and transport network?	No materials, waste or construction activities are involved.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral
	Avoid adverse effects on built assets and infrastructure		No risk to build infrastructure. Compensation flows maintained, avoiding low-flow risks to downstream assets.	N/A	N/A	N/A	N/A	N/A	N/A			0	Neutral	0	Neutral