Drought Plan Option Name: Drought publicity campaigns

Drought Plan Option Description: Campaigns to raise public awareness can be carried out in a number of ways using a variety of different types of media. The central message is to urge all customers to conserve water, especially during periods of drought. This message must be underpinned by explanations of the background to the prevailing conditions and how the drought might continue to intensify. In addition, the Company may promote enhanced uptake of its water efficiency programmes.

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Moderate	Medium	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The campaigns to raise public awareness can be carried out in a number of ways using a variety of different types of media. This measure will have no adverse impacts on biodiversity, flora or fauna, or designated sites of nature conservation interest. However the measure will reduce consumer demand for water and thereby reduce the requirement for abstraction from Yorkshire Water's sources, with the potential for positive impacts on flow sensitive habitats/species.	None	Minor beneficial
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	n/a	n/a	n/a	n/a	n/a	n/a	Media campaigns are considered to have no impact on avoiding the introduction or spreading of INNS.	None	None
Population and human health	2.1 To protect and improve health and well-being and reducTo protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Medium	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The media campaign will result in water savings which will contribute towards improving the security of supply for customers in Yorkshire Water's supply region. The media campaign will also help raise awareness of the importance and value of water environment for health and well-being.	None	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	n/a	n/a	n/a	n/a	n/a	n/a	No impacts on recreation, tourism or navigation are anticipated as a result of the media campaign.	None	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The media campaign will result in water savings which will contribute towards improving the security of water supply for businesses in the region, therefore protecting the local economy.	None	Minor beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The media campaign will not involve any increased material resource use. This measure will reduce the amount of water used in the region. It will not involve any increased waste production.	None	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote the sustainable management of natural resources have been identified for this option.	None	None
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The media campaign is considered to have a beneficial impact on the water environment, acknowledging that reduced consumer demand for water will result in reduced requirement for abstraction from water sources in the Yorkshire Water operating area.	None	Minor beneficial
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	Reductions in demand for water due to this drought plan measure would result in reduced requirement for abstraction from Yorkshire Water's sources, reducing associated abstraction impacts on surface water and groundwater quality in drought conditions.	None	Minor beneficial
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The media campaign is considered to have beneficial impacts on water abstraction management, acknowledging that reduced consumer demand for water will result in reduced requirement for abstraction at Yorkshire Water's sources.	None	Minor beneficial

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought publicity are considered to have beneficial impact on water via reduced consumer demand for water. This may have long term impacts on consumer behaviours and water usage through information provision and providing information to the public regrading water efficiency methods.	None	Minor beneficial
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	n/a	n/a	n/a	n/a	n/a	n/a	No impacts on geology, geomorphology and quality/quantity of soils are anticipated as a result of the media campaign.	None	None
Air and Climate	6.1 To maintain and improve air quality.	n/a	n/a	n/a	n/a	n/a	n/a	No impacts on air quality are anticipated as a result of the media campaign.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	n/a	n/a	n/a	n/a	n/a	n/a	The media campaign will not involve an increase in energy consumption or associated greenhouse gas emissions.	None	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Small	High	Short-term	Temporary	Low (beneficial)	High (beneficial)	Demand management measures are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure the resilience of water supplies to drought which may become more prevalent due to climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Low (beneficial)	The media campaign is considered to have no direct impact on the historic environment, heritage assets and their settings and archaeologically important sites. There is the potential for reduced consumer demand for water to result in reduced requirement for abstraction at Yorkshire Water's sources, potentially reducing any impacts of drought-related effects on archaeology and cultural heritage assets.	None	Negligible beneficial
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Low (beneficial)	The media campaign is considered to have no direct impact on landscape and visual amenity or any changes to access to the countryside or open space. There is the potential for reduced consumer demand for water to result in reduced requirement for abstraction at Yorkshire Water's sources, potentially reducing any impacts of drought-related landscape or visual impacts.	None	Negligible beneficial

Drought Plan Option Name: Increased leakage detection and repair activity

Drought Plan Option Description: This drought option involves a range of leakage reduction activities through find and fix approaches. The potential savings that could be achieved through this option are uncertain.

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Medium (beneficial)	High	Long-term	Permanent	Low (adverse) Low (beneficial)	Low (adverse) Medium (beneficial)	Construction activities associated with leakage detection and repair activities may result in disturbance to local habitats and species during the works. The majority of works are anticipated to be in an urban setting. Assuming best practice construction methods, impacts of the construction phase are anticipated to be negligible. The reduction in water lost through leakage will result in reduced requirement for abstraction at source and therefore, potential for positive impacts on flow and sensitive habitats/species.	Negligible adverse	Minor beneficial
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	N/A	N/A	N/A	N/A	N/A	N/A	Leakage detection and repair activities will not affect the spread of INNS.	None	None
Population and human health	2.1 To protect and improve health and well-being and reducTo protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Medium (beneficial) Small (adverse)	Medium	Long-term (beneficial)	Permanent (beneficial)	Low (beneficial)	High (beneficial)	The drought option will help to ensure levels of service are maintained through enabling provision of water that would have otherwise been lost to leakage.	None	Moderate beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small (adverse)	Low	Short-term (adverse)	Temporary (adverse)	Low (adverse)	Low (adverse)	Construction activities associated with leakage detection and repair activities may result in nuisance effects associated with traffic and noise. However, these will be short term at any one location (likely to be urban) and assuming best practice construction methods, effects will be minimal. It is assumed that public rights of way will be maintained during repair activities and there will be no effects on recreational opportunity.	Negligible adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Medium (beneficial)	Low	Long-term (beneficial)	Permanent (beneficial)	Low (beneficial)	High (beneficial)	Option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Moderate beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Small (beneficial) Small (adverse)	High	Long-term	Permanent	Low (beneficial) Low (adverse)	Low (beneficial) Low (adverse)	Increased leakage reduction activity through 'fix and find' approaches will result in the reduction of water lost in the supply network and therefore the energy and chemicals used to treat it. It utilises existing infrastructure. Repairs may require raw materials. It has been assumed that any materials required would be obtained locally.	Negligible adverse	Negligible beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote the sustainable management of natural resources have been identified for this option.	None	None
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Medium (beneficial)	Moderate	Long-term (beneficial)	Permanent (beneficial)	Low (beneficial)	Medium (beneficial)	The drought option will not directly result in, or modify any abstraction (surface water or groundwater) and therefore will not effect surface water or groundwater levels. However, the reduction in water lost through leakage will result in reduced requirement for abstraction at source.	None	Minor beneficial

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Medium (beneficial) Small (adverse)	Moderate	Long-term (beneficial) Short-term (adverse)	Permanent (beneficial) Temporary (adverse)	Low (beneficial) Low (adverse)	Low (beneficial) Low (adverse)	Construction activities associated with leakage detection and repair activities may result in the potential for impacting on local surface and groundwater quality. Assuming best practice construction methods, impacts of the construction phase are anticipated to be negligible. The reduction in water lost through leakage will result in reduced requirement for abstraction at source, and therefore also mitigate any surface water quality effects associated with abstraction.	Negligible adverse	Negligible beneficial
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Medium (beneficial)	High	Long-term (beneficial)	Permanent (beneficial)	Low (beneficial)	Medium (beneficial)	The option will contribute to more sustainable abstractions by reducing the amount of water already abstracted that is lost through leakage.	None	Minor beneficial
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote long-term improvement in water efficiency have been identified for this option.	None	None
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	Small (adverse)	High	Short-term (adverse)	Temporary (adverse)	Low (adverse)	Low (adverse)	Construction activities associated with Increased leakage reduction activity and 'fix and find' approaches may result in localised disturbance to geology and land use. However, repair activity will be on pipelines which are already in situ.	Negligible adverse	None
Air and Climate	6.1 To maintain and improve air quality.	Small (adverse)	Low	Short-term (adverse)	Temporary (adverse)	Low (adverse)	High (adverse)	Vehicle trips necessary for leakage detection and repair will cause emissions affecting air quality, including some within Air Quality Management Areas in Yorkshire Water's supply area.	Minor adverse	None
Air and climate	6.2 To reduce greenhouse gas emissions.	Medium	Moderate	Short-term (adverse) Long-term (beneficial)	Temporary (adverse) Permanent (beneficial)	Low (beneficial) Low (adverse)	Medium (beneficial) Medium (adverse)	Vehicle trips necessary for leakage detection and repair will cause emissions of greenhouse gas emissions. Leakage detection and repairs will result in the reduction of water lost in the supply network and long term energy savings associated with this reduction (decreased greenhouse gas emissions associated with decreased need for water treatment and pumping).	Minor adverse	Minor beneficial
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Small (beneficial)	High	Long-term (beneficial)	Permanent (beneficial)	Low (beneficial)	High (beneficial)	Demand management measures are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought which may become more prevalent due to climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Small (adverse)	Moderate	Short-term (adverse)	Temporary	Low (adverse)	Low (adverse)	Increased leakage reduction activity through 'fix and find' approaches will be on pipelines which are already in situ, and as such, it is not anticipated that any sites of archaeological or cultural heritage importance will be affected. The setting of any surrounding heritage assets may be impacted for the short term, however, considering the option is an acceleration of ongoing leakage reduction activity this is considered negligible.	Negligible adverse	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	Small (adverse)	Moderate	Short-term (adverse)	Temporary	Low (adverse)	Low (adverse)	The majority of works are anticipated to be in an urban setting. Assuming best practice construction methods, impacts of the construction phase are anticipated to be negligible. The scheme will have no direct effect on landscape and visual amenity in operation.	Negligible adverse	None

Drought Plan Option Name: Introduction of temporary use ban

Drought Plan Option Description: This measure involves the temporary ban on water use to reduce demand. It could be introduced relatively quickly and in phased manner under new powers created by the FWMA 2010 can be applied on a WRZ basis.

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Medium	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	A temporary use ban is considered to have no impact on biodiversity, flora and fauna, other than to acknowledge that reduced consumer demand for water will result in a reduced requirement for abstraction at Yorkshire Water's sources and, therefore, there is the potential for positive impacts on flow, sensitive habitats/species etc.	None	Minor beneficial
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	n/a	n/a	n/a	n/a	n/a	n/a	The temporary use ban is likely to have no impact on avoiding the introduction or spreading of INNS, with reduced abstraction requirements leaving more water in river systems.	None	None
Population and human health	2.1 To protect and improve health and well-being and reducTo protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Medium	High	Short-term	Temporary	Medium (beneficial)	Medium (beneficial)	A temporary use ban will provide water savings will contribute towards improving security of supply of water in the Yorkshire Water supply region. Drinking water quality will not be affected by the restrictions and the measures do not restrict essential water uses that are important in maintaining health and well-being of the population served by Yorkshire Water.	None	Moderate beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Low	Short	Temporary	Medium (adverse)	Low (adverse)	Reducing the demand for non-essential water use is unlikely to have any impacts for recreation, tourism and navigation. There may be some limited domestic impact, for example not being able to refill or maintain a domestic swimming pool.	Minor adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Medium	Moderate	Short to medium-term	Temporary	Medium (adverse)	Medium (adverse)	The principal impact will be on domestic customers as the ban would preclude the use of water for those use categories set out under the temporary use ban powers. The ban may indirectly adversely impact business which benefit from the sale of certain water-using appliances such as hosepipes and sprinklers.	Moderate adverse	None
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Medium	Moderate	Medium-term	Temporary	Low (beneficial)	Medium (beneficial)	The ban will reduce the demand for water in the region, improving the efficiency of existing water resource use. It will not result in any increase in the generation of waste.	None	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote the sustainable management of natural resources have been identified for this option.	None	None
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Low	Low	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	Reductions in demand for water would result in reduced requirement for abstraction at source, reducing the risk of associated impacts on surface water and groundwater quality in drought conditions.	None	Minor beneficial
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Medium	Moderate	Medium-term	Temporary	Low (beneficial)	Medium (beneficial)	The ban will not directly result in, or modify any abstraction (surface water or groundwater). Reduction in demand for demand for water will result in reduced requirement for abstraction from Yorkshire Water's sources, reducing the impacts on water levels and river flows in drought conditions.	None	Minor beneficial
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Medium	Moderate	Medium-term	Temporary	Low (beneficial)	Medium (beneficial)	Reduction in demand for water will result in a reduced requirement for abstraction from Yorkshire Water's sources, helping provide some protection for water-dependent ecosystems.	None	Minor beneficial

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	This option will have a beneficial impact on water, acknowledging that reduced consumer demand for water will result in reduced requirement for abstraction at source. This may have medium to long-term impacts on consumer water usage.	None	Minor beneficial
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	n/a	n/a	n/a	n/a	n/a	n/a	No impacts on geology, geomorphology and quality/quantity of soils are anticipated as a result of the temporary use ban.	None	None
Air and Climate	6.1 To maintain and improve air quality.	n/a	n/a	n/a	n/a	n/a	n/a	No impacts on air quality are anticipated as a result of the temporary use ban.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	n/a	n/a	n/a	n/a	n/a	n/a	The ban will not involve an increase in energy consumption or associated greenhouse gas emissions.	None	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Small	High	Long-term	Permanent	Low (beneficial)	Medium (beneficial)	Demand management measures are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought which may become more prevalent due to climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Medium	Moderate	Medium-term	Temporary	Low (beneficial) Low (adverse)	Low (beneficial) Low (adverse)	There may be minor adverse impacts associated with the setting of some heritage assets, for example, visual impacts on registered parks and gardens and /or the grounds of listed buildings due to restrictions on the use of water for any non-essential purposes. Notwithstanding these impacts, the ban is considered unlikely to have any direct impact on the historic environment, heritage assets and archaeologically important sites. There is the potential for reduced consumer demand for water to result in reduced requirement for abstraction at Yorkshire Water's sources, potentially reducing the magnitude of any drought-related effects on archaeology and cultural heritage assets.	Negligible adverse	Negligible beneficial
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	Medium	Moderate	Medium-term	Temporary	Low (beneficial) Low (adverse)	Low (beneficial) Low (adverse)	There may be some localised adverse effects on townscapes and the setting of some visual amenities due to the ban on watering of gardens and grounds. However, the ban is considered to have no direct impact on landscape and visual amenity or any changes to access to the countryside or open space. There is the potential for reduced consumer demand for water to result in reduced requirement for abstraction from Yorkshire Water's sources, potentially reducing the magnitude of any drought-related effects on landscape or visual amenity.	Negligible adverse	Negligible beneficial

Drought Plan Option Name: Introduction of a drought order to ban non-essential water uses

Drought Plan Option Description: The Company has recourse to a range of restrictions to Non-Essential Use. However, it can take a significant time to apply for and then implement a Drought Order. The Company might decide not to exercise all its powers until severe drought conditions are reached.

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The ban is considered to have no impact on biodiversity, flora and fauna, other than to acknowledge that reduced consumer demand for water will result in reduced requirement for abstraction from Yorkshire Water's sources and, therefore, potential for positive impacts on flow, sensitive habitats/species etc.	None	Minor beneficial
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	n/a	n/a	n/a	n/a	n/a	n/a	The ban is likely to have no impact on avoiding the introduction or spreading of INNS, with reduced abstraction requirements leaving more water in river systems.	None	None
Population and human health	2.1 To protect and improve health and well-being. To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Medium	Medium	Short-term	Temporary	Medium (beneficial)	Medium (beneficial)	The ban will provide water savings which will contribute towards improving security of supply of water in the Yorkshire Water supply region. Drinking water quality will not be affected by the restrictions and there will be no impact on essential water uses that are necessary to maintain public health and well-being of the population served by Yorkshire Water.	None	Moderate beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Medium	Low	Short-term	Temporary	Medium (adverse)	Medium (adverse)	There may be potential for moderate impacts upon recreational activities due to restrictions on filling of swimming pools, watering of sports pitches, etc. There may be moderate impacts associated with the setting of tourist attractions, for example water features and parks/gardens associated with popular tourist sites.	Moderate adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Medium	Medium	Short-term	Temporary	High (adverse)	Medium (adverse)	The ban carries the risk of some economic impact on businesses that benefit directly or indirectly from certain water uses that would be prohibited under the ban (e.g. sports and leisure facilities). The ban may result in some business loss if the water-related operations have to be suspended.	Major adverse	None
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Medium	Low	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The ban will reduce the demand for water in the region, improving the efficiency of existing water resource use. It will not result in any increase in the generation of waste.	None	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote the sustainable management of natural resources have been identified for this option.	None	None
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Low	Low	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The ban will not directly result in, or modify any abstraction (surface water or groundwater). Reduction in demand for water will result in a reduced requirement for abstraction at Yorkshire Water's sources, minimising impacts on water levels and river flows in drought conditions.	None	Minor beneficial
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Low	Low	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	Reductions in demand for water would result in a reduced requirement for increased abstraction from Yorkshire Water's sources, reducing associated impacts on surface water and groundwater quality during drought conditions.	None	Minor beneficial

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Low	Low	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	Reduction in demand for demand for water will result in reduced requirement for abstraction from Yorkshire Water's sources, helping provide some protection for water-dependent ecosystems.	None	Minor beneficial
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	This option will have a beneficial impact on water, acknowledging that reduced consumer demand for water will result in reduced requirement for abstraction at source. This may have medium to long-term impacts on consumer water usage.	None	Minor beneficial
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	n/a	n/a	n/a	n/a	n/a	n/a	No impacts on geology, geomorphology and quality/quantity of soils are anticipated as a result of the drought order to ban non-essential use.	None	None
Air and Climate	6.1 To maintain and improve air quality.	n/a	n/a	n/a	n/a	n/a	n/a	No impacts on air quality are anticipated as a result of the ban.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	n/a	n/a	n/a	n/a	n/a	n/a	The ban will not involve an increase in energy consumption or associated greenhouse gas emissions.	None	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Low	Low	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	Demand management measures are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought which may become more prevalent due to climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Low	Low	Short-term	Temporary	Low (beneficial) Low (adverse)	Low (beneficial) Low (adverse)	There may be minor adverse impacts associated with the setting of some heritage assets, for example, visual impacts on registered parks and gardens and /or the grounds of listed buildings. Notwithstanding these impacts, the ban is considered unlikely to have any direct impact on the historic environment, heritage assets and archaeologically important sites. There is the potential for reduced consumer demand for water to result in reduced requirement for abstraction at Yorkshire Water's sources, potentially reducing the magnitude of any drought-related effects on archaeology and cultural heritage assets.	Negligible adverse	Negligible beneficial
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	Low	Low	Short-term	Temporary	Low (beneficial) Low (adverse)	Low (beneficial) Low (adverse)	There may be some localised adverse effects on townscapes and the setting of some visual amenities due to the ban on watering of gardens and grounds. However, the ban is considered to have no direct impact on landscape and visual amenity or any changes to access to the countryside or open space. There is the potential for reduced consumer demand for water to result in reduced requirement for abstraction at Yorkshire Water's sources, potentially reducing the magnitude of any drought-related effects on landscape or visual amenity.	Negligible adverse	Negligible beneficial

Drought Plan Option Name: Emergency Drought Order

Drought Plan Option Description: Emergency drought orders allow water companies to restrict supplies to customers through the imposition of rota cuts and/or the introduction of standpipes. These measures exist to deal with the very remote possibility of a drought much worse than any seen in the last century or more in the UK. Emergency Drought Orders have not been put in place in the UK since 1976. Ministers have made it clear that such measures should be avoided at all costs and introduced only as a last resort. The Company will make full use of all other measures before considering whether the severity of drought conditions mean that Emergency Drought Orders might be required.

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Medium	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	An emergency drought order is considered to have no impact on biodiversity, flora and fauna, other than to acknowledge that reduced consumer demand for water will result in reduced requirement for abstraction from Yorkshire Water sources in drought and, therefore, potential for positive impacts on flow, sensitive habitats/species etc.	None	Minor beneficial
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	N/A	N/A	N/A	N/A	N/A	N/A	An emergency drought order is not likely to have an impact on avoiding the introduction or spreading of INNS, with reduced abstraction requirements leaving more water in river systems.	None	None
Population and human health	2.1 To protect and improve health and well-being and reducTo protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Medium	High	Short-term	Temporary	High (adverse) Medium (beneficial)	Medium (adverse) Medium (beneficial)	An emergency drought order will provide water savings which will contribute towards maintaining the provision of water supplies for priority essential uses, preventing a complete loss of supply to customers. Drinking water quality may be adversely affected due to the intermittent nature of supplies and there may be a requirement under certain circumstances for customers to boil water for potable uses to protect public health. Customers will face considerable disruption to their daily lives as a result of intermittent supply provision.	Major adverse	Moderate beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Medium	Moderate	Short-term	Temporary	High (adverse)	Medium (adverse)	Depending on the scale of the drought order restrictions, there could potentially be significant impacts on recreation and tourism, particularly activities that may benefit directly or indirectly from water usage (e.g. swimming pools, sports pitches, the setting of tourist attractions and visual impacts on the grounds of popular tourist sites).	Major adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Medium	Moderate	Short to medium-term	Temporary to permanent	High (adverse)	Medium (adverse)	Depending on the scale of the required drought order demand restrictions, there could potentially be significant impacts on businesses/economy, particularly those that benefit directly or indirectly from water usage (e.g. window cleaning businesses, sports and leisure facilities, garden and landscape orientated businesses). Hotels and other holiday/tourist accommodation and camping sites will likely be adversely affected. In the worst case scenario, publicity regarding water restrictions may cause a loss of tourism revenue, as tourists delay or cancel trips to the affected area. Hospitality businesses are also likely to be adversely affected.	Major adverse	None
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Medium	Moderate	Medium-term	Temporary to permanent	Low (beneficial)	Medium (beneficial)	An emergency drought order will reduce the demand for water in the region, thereby reducing water resource use. It will not result in any increase in the generation of waste.	None	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote the sustainable management of natural resources have been identified for this option.	None	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Low	Low	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	Reductions in demand for water would result in reduced requirement for increased abstraction from Yorkshire Water's sources, reducing associated impacts on surface water and groundwater quality during drought conditions.	None	Minor beneficial
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Medium	Moderate	Medium-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought order will not directly result in, or modify any abstraction (surface water or groundwater). Reduction in demand for water will result in a reduced requirement for abstraction at Yorkshire Water's sources, minimising impacts on water levels and river flows in drought conditions.	None	Minor beneficial
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Medium	Moderate	Medium-term	Temporary	Low (beneficial)	Medium (beneficial)	Reduction in demand for demand for water will result in reduced requirement for abstraction from Yorkshire Water's sources, helping provide some protection for water-dependent ecosystems.	None	Minor beneficial
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	Medium	Medium	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	This option will have a beneficial impact on water, acknowledging that reduced consumer demand for water will result in reduced requirement for abstraction at source. This may have medium to long-term impacts on consumer water usage.	None	Minor beneficial
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	N/A	N/A	N/A	N/A	N/A	N/A	No impacts on geology, geomorphology and quality/quantity of soils are anticipated as a result of the use of an emergency drought order.	None	None
Air and Climate	6.1 To maintain and improve air quality.	N/A	N/A	N/A	N/A	N/A	N/A	No impacts on air quality are anticipated as a result of the use of an emergency drought order.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	N/A	N/A	N/A	N/A	N/A	N/A	The use of an emergency drought order will not involve any increased resource use, or increased greenhouse gas emissions.	None	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Small	High	Short-term	Temporary	High (adverse) Low (beneficial)	Medium (adverse)	The drought order is a last resort to maintain priority essential water supplies to customers; as such it is not a measure that improves the resilience of the water supply system to climate change threats.	Major adverse	Negligible beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Medium	Moderate	Medium-term	Temporary	Low (adverse) Low (beneficial)	Low (Adverse) Low (beneficial)	There may be minor adverse impacts associated with the setting of some heritage assets, for example, visual impacts on registered parks and gardens and /or the grounds of listed buildings due to restrictions on the use of water for any non-essential purposes. Notwithstanding these impacts, the ban is considered unlikely to have any direct impact on the historic environment, heritage assets and archaeologically important sites. There is the potential for reduced consumer demand for water to result in reduced requirement for abstraction at Yorkshire Water's sources, potentially reducing the magnitude of any drought-related effects on archaeology and cultural heritage assets.	Negligible adverse	Negligible beneficial
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	Medium	Moderate	Medium-term	Temporary	Low (adverse) Low (beneficial)	Low (adverse) Low (beneficial)	There may be some localised adverse effects on townscapes and the setting of some visual amenities due to the restrictions on water use for any non-essential purposes. However, the ban is considered to have no direct impact on landscape and visual amenity or any changes to access to the countryside or open space. There is the potential for reduced consumer demand for water to result in reduced requirement for abstraction at Yorkshire Water's sources, potentially reducing the magnitude of any drought-related effects on landscape or visual amenity.	Negligible adverse	Negligible beneficial

Drought Plan Option Name: North Area Reservoir 1

Drought Plan Option Description: Reduced compensation flow release from North Area Reservoir 1 from 13.66 Ml/d to 4.51 Ml/d to the receiving watercourse.

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Medium	Low	Short-term	Temporary	Medium (adverse)	High (adverse)	Impacts on one SSSI are assessed as negligible. A hydrogeological impact assessment and baseline monitoring of the groundwater levels in the area indicates that groundwater flow is towards the River Ure, which acts as a major sink for groundwater. As such, the risk from an increase in abstraction to the SSSI is considered to be negligible. The drought option will impact wetted width, especially in shallow areas of the channel, potentially reducing habitat availability in the impacted reaches. The drought option is assessed as having an impact on the following NERC and Notable species due to due fragmentation of habitats, increased mortality and siltation of spawning gravels: Minor impact for bullhead and *Riolus subviolaceus* . Moderate impact for brook lamprey, brown trout, water vole and white-clawed crayfish. Major impact for Atlantic salmon, European eel and river lamprey associated with the impacted reaches. There is a moderate risk of deterioration of WFD status (macroinvertebrates and fish).	Moderate adverse	None
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	N/A	N/A	N/A	N/A	N/A	N/A	Invasive species utilise flow of the watercourse for dispersal. The implementation of the drought option will lead to a reduction in flow and is therefore not anticipated to increase the spread of aquatic invasive non-native species.	None	None
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Small	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will deliver 9.15 Ml/d helping to maintain essential public water supplies during drought conditions, and therefore help maintain public health and well-being.	None	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Medium	Moderate	Short-term	Temporary	Low (adverse)	Low (adverse)	Flows during a drought will be low such that further reduction in flows would not be likely to further reduce the angling quality of the reach. Canoeing on the Ure may still be suitable under drought conditions. However, the impact of the drought option is unlikely to be significant against a baseline of drought conditions.	Negligible adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Small	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Minor beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Small	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	No impacts on material assets are anticipated. The option involve modifications to compensation flow only and no changes to energy use, generated waste or sustainable designs are envisaged. The option will make use of existing infrastructure.	None	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote the sustainable management of natural resources have been identified for this option.	None	None
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Medium	Moderate	Short-term	Temporary	Low (adverse)	Medium (adverse)	Impacts towards reaches of three watercourse were considered in the assessment, including Pott Beck , the River Burn and River Ure. There is one licenced fish farm presenting an environmental pressure in the impacted reaches in association with the drought option. There is a major risk that the drought option flow reduction would reduce the dissolved oxygen saturation and increase total ammonia concentrations downstream beyond values which support 'good' or 'high' status for fish and invertebrates. Overall there is a major risk to water quality as a result of the drought option.	Moderate adverse	None
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Medium	Moderate	Short-term	Temporary	High (adverse)	Medium (adverse)	The drought option would lead to a major reduction in low flows (up to 67%) associated reduction in wetted width and depth over a 31.8km of the impacted reaches. Overall major to moderate adverse impacts are anticipated towards river habitats associated with the drought option.	Major adverse	None
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Medium	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option would contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity. The risk to the WFD Status of the impacted reaches is moderate.	None	Minor beneficial
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote long-term improvement in water efficiency have been identified for this option.	None	None
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	Medium	Moderate	Short-term	Temporary	Low (adverse)	Low (adverse)	There are no land use changes associated with reduced compensation flow. It is anticipated that there will be no impacts on geologically sensitive sites.	Negligible adverse	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Air and Climate	6.1 To maintain and improve air quality.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option involves the lowering of HOF with no change in existing abstraction volumes and therefore not impact air quality.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option will not result in an increase in energy use, therefore, no changes to greenhouse gas emissions are envisaged.	None	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Small	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	Drought options are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought conditions which may become more prevalent due to climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	N/A	N/A	N/A	N/A	N/A	N/A	Nearby ancient monuments are not water-dependent and would not be impacted by the drought option.	None	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	Medium	Moderate	Short-term	Temporary	Low (adverse)	Medium (adverse)	A significant reduction in the level of Pott Beck and River Burn will have a visual impact on one AONB. However, there is limited access to the impacted reach with no national trails.	Minor adverse	None

Drought Plan Option Name: North Area Reservoir 2

Drought Plan Option Description: Reduced compensation flow release from North Area Reservoir 2 from 0.46 Ml/d to 0.15 Ml/d to the receiving watercourses.

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Medium	Low	Short-term	Temporary	Low (adverse)	Medium (adverse)	There are no designated sites within the zone of influence of the drought option. The drought option would impact wetted width, especially in shallow areas of the channel, potentially reducing habitat availability. The drought option would have a moderate impact on brown trout, white-clawed crayfish, water vole and a minor impact on *Graptodytes falvipehave.* There is a low risk for deterioration of WFD Status (macroinvertebrates) and minor risk for WFD Status (fish).	Minor adverse	None
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	N/A	N/A	N/A	N/A	N/A	N/A	Invasive species utilise flow of the watercourse for dispersal. The implementation of the drought option will lead to a reduction in flow and is therefore not anticipated to increase the spread of aquatic invasive non-native species.	None	None
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Small	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will deliver 0.31 Ml/d helping to maintain essential public water supplies during drought conditions, and therefore help maintain public health and well being.	None	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation	Small	Moderate	Short-term	Temporary	Low (adverse)	Medium (adverse)	The drought option would have a low impact on angling and drought conditions are not conducive to canoeing.	Minor adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Small	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Minor beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option involves modifications to compensation flow only and no significant changes to energy use, generated waste or sustainable designs are envisaged. The option will make use of existing infrastructure.	None	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote the sustainable management of natural resources have been identified for this option.	None	None
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Medium	Moderate	Short-term	Temporary	Low (adverse)	Low (adverse)	Impacts of the drought option towards the a number of watercourses were considered in the assessment. There is a minor risk that there would be an decrease in the downstream dissolved oxygen saturation and increase total ammonia concentration beyond values which support 'good' or 'high' status for fish and invertebrates. Overall there is a minor risk to water quality as a result of the drought option.	Minor adverse	None
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Medium	Moderate	Short-term	Temporary	High (adverse)	Medium (adverse)	The drought option would lead to a major reduction in low flows (up to 67%) over 12.6 km with associated reduction in wetted width and depth. However, this would be localised where the bank is shallow. The drought option would not impact on the moderate to high flow regime in the receiving watercourses. Overall moderate impacts are anticipated towards river habitats associated with the drought option.	Major adverse	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Medium	Low	Short-term	Temporary	Low (beneficial)	Low (beneficial)	The drought option would contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity. The drought option would be accompanied by water conservation campaigns to promote the efficient use of water to protect the environment and safeguard supplies. The overall WFD status is Moderate and water availability is 30-50% in the zone of influence of the option.	None	Negligible beneficial
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote long-term improvement in water efficiency have been identified for this option.	None	None
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	N/A	N/A	N/A	N/A	N/A	N/A	There are no land use changes associated with reduced compensation flow. It is anticipated that there will be no impacts on geologically sensitive sites.	None	None
Air and Climate	6.1 To maintain and improve air quality.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option involves modifications to compensation flow only and will therefore not result in any emissions to atmosphere.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option will not result in an increase in energy use, therefore, no changes to greenhouse gas emissions are envisaged. The use of existing infrastructure will minimise increases in greenhouse gas emissions.	None	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	Drought options are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought which may become more prevalent due to climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	N/A	N/A	N/A	N/A	N/A	N/A	Nearby ancient monuments and heritage sites are not water-dependent and would not be impacted by the drought option.	None	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	Small	Moderate	Short-term	Temporary	Low (adverse)	Medium (adverse)	A significant reduction in the level of the watercourse would have a visual impact on an AONB. However, there is limited access to the impacted reach with no national trails.	Minor adverse	None

Drought Plan Option Name: North Area 3 Reservoir

Drought Plan Option Description: Reduced Compensation Flow Release from North Area Reservoir 3 from 0.75 Ml/d to 0.25 Ml/d.

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Medium	Low	Short-term	Temporary	Medium (adverse)	High (adverse)	The drought option will impact wetted width, especially in shallow areas of the channel, potentially reducing habitat availability. The drought option is assessed as having an impact on the following NERC and Notable species due to due fragmentation of habitats, increased mortality and siltation of spawning gravels: Major impact on brown trout, Moderate impact on bullhead, water vole and white-clawed crayfish and a minor impact on *Hydraena palustris* . Overall a moderate risk of deterioration of WFD status (macroinvertebrates and fish).	Moderate adverse	None
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	N/A	N/A	N/A	N/A	N/A	N/A	Invasive species utilise flow of the watercourse for dispersal. The implementation of the drought option will lead to a reduction in flow and is therefore not anticipated to increase the spread of aquatic invasive non-native species.	None	None
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Small	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will deliver 0.5 Ml/d helping to maintain essential public water supplies during drought conditions, and therefore help maintain public health and well-being.	None	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Medium	Moderate	Short-term	Temporary	Low (adverse)	Low (adverse)	Flows during a drought will be low such that further reduction in flows would not be likely to further reduce the angling quality of the reach. Canoeing may still be suitable under drought conditions. However, the impact of the drought option is unlikely to be significant against a baseline of drought conditions.	Negligible adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Small	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Minor beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Small	Moderate	Short-term	Temporary	Low (beneficial)	Low (beneficial)	No impacts on material assets are anticipated. The option involve modifications to compensation flow only and no changes to energy use, generated waste or sustainable designs are envisaged. The option will make use of existing infrastructure.	None	None
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote the sustainable management of natural resources have been identified for this option.	None	None
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Medium	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	Impacts towards water quality in the reaches of the watercourse were considered in the assessment. There are two frequently spilling CSO potential presenting an environmental risk in the reach. There is a moderate risk that there would be an increase the downstream total ammonia concentration saturation above values which support 'good' or 'high' status for fish and invertebrates. Overall there is a moderate risk to water quality as a result of the drought option.	Moderate adverse	None
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Medium	Moderate	Short-term	Temporary	High (adverse)	Medium (adverse)	The drought option would lead to a major reduction in low flows (67%), with associated reduction in wetted width and depth over a 13.8km stretch of impacted reaches. However, habitats and navigation would not be majorly impacted due to the minor hydrological impact on medium to high flow regimes. Overall major impacts are anticipated towards river habitats associated with the drought option.	Major adverse	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Medium	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option would contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity. The risk to the WFD Status of the impacted reaches is moderate.	None	Minor beneficial
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote long-term improvement in water efficiency have been identified for this option.	None	None
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	Medium	Moderate	Short-term	Temporary	Low (adverse)	Low (adverse)	There are no land use changes associated with reduced compensation flow. It is anticipated that there will be no impacts on geologically sensitive sites.	Negligible adverse	None
Air and Climate	6.1 To maintain and improve air quality.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option involves the lowering of HOF with no change in existing abstraction volumes and therefore not impact air quality.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option will not result in an increase in energy use, therefore, no changes to greenhouse gas emissions are envisaged.	None	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Small	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	Drought options are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought conditions which may become more prevalent due to climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	N/A	N/A	N/A	N/A	N/A	N/A	Nearby ancient monuments are not water-dependent and would not be impacted by the drought option.	None	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	Medium	Moderate	Short-term	Temporary	Low (adverse)	Low (adverse)	A significant reduction in the level of receiving watercourses will have a limited visual impact on an AONB. There is limited access to the impacted reach with no national trails.	Negligible adverse	None

Drought Plan Option Name: North Area Reservoir 4

Drought Plan Option Description: Reduced Compensation Flow Release from North Area Reservoir 4 from 18.19 Ml/d to 6.00 Ml/d.

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Small	High	Short term	Temporary	Medium (adverse)	Medium (adverse)	There are no designated sites nearby. The drought permit will impact areas of wetted width, especially in shallow areas of the channel, potentially reducing habitat availability and the marginal areas where ammocoetes develop. Specific locations of the shallow sections of the channel, which will be impacted the most are uncertain. Major impacts on NERC Fish species within the reach (Atlantic salmon, brook lamprey, brown trout and water vole) due to siltation of spawning gravels, exposure of habitat etc . Further, moderate impacts are expected for brook lamprey, European eel, grayling and bullhead. The impact on macroinvertebrates is considered to be short term. Migratory fish may also be impacted by the presence of weirs within the reach. Minor impacts are expected to affect *Metalype fragilis* due to changes in wetted width and depth. Moderate impacts are expected on the WFD status of macroinvertebrates which are temporary and reversible. Minor impacts are expected on the WFD status of fish, which is considered temporary and reversible.	Moderate adverse	None
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	N/A	N/A	N/A	N/A	N/A	N/A	The implementation of this drought permit is not anticipated to increase the spread of aquatic invasive non-native species because the flows within the rivers will be lower.	None	None
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Small	High	Short term	Temporary	Medium (beneficial)	Medium (beneficial)	The drought permit will help to maintain essential public water supplies during drought conditions and therefore help maintain public health and well-being. The drought option will provide 12.19 Ml/d.	None	Moderate beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Moderate	Short term	Temporary	Low (adverse)	Low (adverse)	Angling could potentially be adversely affected due to lower fish stocks, however this is likely to be temporary and will require further assessment at the stage a drought permit is applied for.	Negligible adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Small	Moderate	Short term	Temporary	Medium (beneficial)	Medium (beneficial)	Implementation of the drought permit will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Moderate beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Small	Moderate	Short term	Temporary	Low (beneficial)	Medium (beneficial)	The option involves modifications to compensation flow only and no changes to energy use, generated waste or sustainable designs are envisaged. The option will make use of existing infrastructure.	None	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote the sustainable management of natural resources have been identified for this option.	None	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Small	Moderate	Short term	Temporary	Low (adverse)	Medium (adverse)	Impacts towards water quality in the watercourse were considered in the assessment. There is a major risk in relation to a licenced fish farm that the drought option flow reduction would increase the downstream total ammonia concentration above values which support 'good' or 'high' status for fish, which are required to maintain the current WFD status for fisheries and macroinvertebrates without mitigation. Overall there is a major risk to water quality as a result of the drought option.	Major adverse	None
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Small	Moderate	Short term	Temporary	High (adverse)	Medium (adverse)	The drought permit will temporary increase abstraction for water supply, there is a major hydrological impact on the reach. The drought permit will lead to a major reduction in low flows (67%), with associated reduction in wetted width and depth over a 4.3km stretch of impacted reaches. However these will be localised where the bank is shallow (the specific areas are uncertain). The drought permit will not impact on the moderate to high flow regime in the receiving watercourses. Overall major impacts are anticipated towards river habitats associated with the drought option.	Major adverse	None
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Small	Moderate	Short term	Temporary	Medium (beneficial)	Medium (beneficial)	Local water availability is 30%. The drought permit will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity with no permanent adverse effects on the environment. Drought permit will be accompanied by water conservation campaigns to promote efficient use of water to protect the environment and safeguard supplies.	None	Minor beneficial
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote long-term improvement in water efficiency have been identified for this option.	None	None
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	N/A	N/A	N/A	N/A	N/A	N/A	There would be no land use changes associated with this drought permit.	None	None
Air and Climate	6.1 To maintain and improve air quality.	N/A	N/A	N/A	N/A	N/A	N/A	The drought permit involves modification to compensation flow only, no changes to energy use are anticipated. There are no AQMA nearby.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	N/A	N/A	N/A	N/A	N/A	N/A	The drought permit involves modifications to compensation flow only. No changes to greenhouse gas emissions, are envisaged.	None	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Small	High	Short term	Temporary	Low (beneficial)	Medium (beneficial)	Drought permits are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought which may become more prevalent due to climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	N/A	N/A	N/A	N/A	N/A	N/A	No known water-dependent cultural heritage or archaeology sites are located within or adjacent to the impacted reaches.	None	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	Small	Moderate	Short term	Temporary	Low (adverse)	Low (adverse)	A major hydrological impact on the watercourse will adversely impact the visual amenity of an AONB, however as the river reach forms a small portion of the AONB, impacts are expected to be local and short term. The drought permit will enable higher water levels to be maintained for longer in North Area Reservoir 4 (less shoreline exposure), but the receiving reach will experience lower water levels.	Negligible adverse	None

Drought Plan Option Name: North Area Reservoir 6

Drought Plan Option Description: Reduced compensation flow release from North Area Reservoir 6 from 16.90-3.90 Ml/d to 1.29-5.58 Ml/d to the receiving watercourse.

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Small	Low	Short-term	Temporary	Low (adverse)	Medium (adverse)	There are no designated sites within the zone of influence of the drought option. The drought option would impact wetted width, especially in shallow areas of the channel, potentially reducing habitat availability. The drought option would have a moderate impact on brook lamprey, bullhead and water vole, and a major impact on brown trout. There is a moderate risk for deterioration of WFD Status (macroinvertebrates) and for WFD Status (fish).	Moderate adverse	None
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	N/A	N/A	N/A	N/A	N/A	N/A	Invasive species utilise flow of the watercourse for dispersal. The implementation of the drought option will lead to a reduction in flow and is therefore not anticipated to increase the spread of aquatic invasive non-native species.	None	None
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Small	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will deliver 2.60-11.30 Ml/d helping to maintain essential public water supplies during drought conditions, and therefore help maintain public health and well being.	None	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation	Small	Moderate	Short-term	Temporary	Low (adverse)	Medium (adverse)	There is canoeing known to take place in the impacted reaches, however, it is unlikely to be impacted over the duration of the drought permit. Canoeing events rely on specific high volume releases, although these may reduce during a drought the reduction is not related to the drought permit for North Area 6.	Negligible adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Small	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Minor beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option involves modifications to compensation flow only and no significant changes to energy use, generated waste or sustainable designs are envisaged. The option will make use of existing infrastructure.	None	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote the sustainable management of natural resources have been identified for this option.	None	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Medium	Moderate	Short-term	Temporary	Low (adverse)	Low (adverse)	Impacts towards reaches of the River Washburn were considered in the assessment. The water quality is described as supporting high WFD status for fish and invertebrates without the drought option. Water quality indicators including dissolved oxygen saturation, total ammonia concentration saturation and orthophosphate concentrations throughout the study area are assessed to be at minor risk of deterioration during the implementation of the drought option. Overall there is a minor risk to water quality as a result of the drought option.	Minor adverse	None
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Medium	Moderate	Short-term	Temporary	High (adverse)	Medium (adverse)	The drought option would lead to a major reduction in low flows (67%) over 3 km with an associated reduction in wetted width and depth. However, this would be localised where the bank is shallow. The drought option would not impact on the moderate to high flow regime in the receiving watercourses. Overall major impacts are anticipated towards river habitats associated with the drought option.	Major adverse	None
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Medium	Low	Short-term	Temporary	Low (beneficial)	Low (beneficial)	The drought option would contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity. The drought option would be accompanied by water conservation campaigns to promote the efficient use of water to protect the environment and safeguard supplies.	None	Minor beneficial
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote long-term improvement in water efficiency have been identified for this option.	None	None
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	N/A	N/A	N/A	N/A	N/A	N/A	There are no land use changes associated with reduced compensation flow. It is anticipated that there will be no impacts on geologically sensitive sites.	None	None
Air and Climate	6.1 To maintain and improve air quality.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option involves modifications to compensation flow only and will therefore not result in any emissions to atmosphere.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option will not result in an increase in energy use, therefore, no changes to greenhouse gas emissions are envisaged. The use of existing infrastructure will minimise increases in greenhouse gas emissions.	None	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	Drought options are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought which may become more prevalent due to climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	N/A	N/A	N/A	N/A	N/A	N/A	Nearby ancient monuments and heritage sites are not water-dependent and would not be impacted by the drought option.	None	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	N/A	N/A	N/A	N/A	N/A	N/A	There are no landscape designations in proximity to the impacted reaches of the drought option.	None	None

Drought Plan Option Name: North West Area 1

Drought Plan Option Description: A reduction in the North West Area 1 from 6-8 Ml/d to 2.67-5.33 Ml/d.

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Small	Low	Short-term	Temporary	Medium (adverse)	Medium (adverse)	The reduced flows will result in a number of impacts towards the impacted reaches, including: the stranding of individuals or groups; deterioration or loss of habitats; fragmentation of habitats; increased mortality; and changes in morphology or behaviour. The drought option is assessed as having the following impacts: Minor adverse impact on barbel and grayling. Moderate adverse impact on water vole, bullhead and European eel. Major adverse impact on white-clawed crayfish, brown trout and brook lamprey. Overall there is a major-moderate risk of deterioration of WFD status (fish and invertebrates).	Moderate adverse	None
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	N/A	N/A	N/A	N/A	N/A	N/A	Invasive species utilise flow of the watercourse for dispersal. The implementation of the drought option will lead to a reduction in flow and is therefore not anticipated to increase the spread of aquatic invasive non-native species.	None	None
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Small	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will deliver up to 5.3 Ml/d helping to maintain essential public water supplies during drought conditions, and therefore help maintain public health and well-being.	None	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	The drought option will have a moderate impact extensive non-club administered angling along the River Worth.	Moderate adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Small	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Minor beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Small	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	No impacts on material assets are anticipated. The option involves modifications to compensation flow only and no changes to energy use, generated waste or sustainable designs are envisaged. The option will make use of existing infrastructure.	None	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote the sustainable management of natural resources have been identified for this option.	None	None
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Small	Moderate	Short-term	Temporary	Low (adverse)	Medium (adverse)	Impacts towards reaches of three watercourse were considered in the assessment, including the River Worth and River Aire . The risk of water quality deterioration below what supports good WFD status for fish and invertebrates is moderate for dissolved oxygen, ammonia and phosphate. Overall there is a moderate risk to water quality as a result of the drought option.	Moderate adverse	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Small	Moderate	Short-term	Temporary	High (adverse)	Medium (adverse)	The drought option would lead to a major to moderate reduction in low flows (up to 67%), with associated reduction in wetted width and depth over a 8.5 km stretch of the impacted reaches Overall major hydrological impact towards the impacted reaches. Overall major to minor impacts are anticipated towards river habitats associated with the drought option.	Major adverse	None
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Small	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity. The drought option will be accompanied by water conservation campaigns to promote efficient use of water to protect the environment and safeguard supplies. Water availability is at least 70% in the zone of influence of the drought option.	None	Minor beneficial
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote long-term improvement in water efficiency have been identified for this option.	None	None
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	N/A	N/A	N/A	N/A	N/A	N/A	There are no land use changes associated with reduced compensation flow. It is anticipated that there will be no impacts on geologically sensitive sites.	None	None
Air and Climate	6.1 To maintain and improve air quality.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option involves a reduction in compensation flow with no change in existing abstraction volumes and would therefore not result in any increases in emissions to atmosphere.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option would not be associated with an increase in energy consumption, therefore, no changes to greenhouse gas emissions are envisaged.	None	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Small	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	Drought options are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought conditions which may become more prevalent due to climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	N/A	N/A	N/A	N/A	N/A	N/A	There are no heritage assets or sites of archaeological importance within proximity to the impacted reaches.	None	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	N/A	N/A	N/A	N/A	N/A	N/A	There are no landscape designations in proximity to the impacted reaches of the drought option.	None	None

Drought Plan Option Name: North West Area Reservoir 2

Drought Plan Option Description: Reduced compensation flow release from North West Area Reservoir 2 from 3.25-5.25 Ml/d to 1.07-1.73 Ml/d.

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	The reduced flows will result in a number of impacts, including: the stranding of individuals or groups; deterioration or loss of habitats; fragmentation of habitats; increased mortality; and changes in morphology or behaviour. The drought option is assessed as having an impact on the following NERC and notable species: Minor impact for *Riolus subviolaceus.* Moderate impact for bullhead, white-clawed crayfish, grayling, water vole and European eel. Major impact for brown trout and brook lamprey. Overall there is a major risk of deterioration of WFD status (fish) and a moderate risk of deterioration of WFD status (invertebrates).	Moderate adverse	None
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	N/A	N/A	N/A	N/A	N/A	N/A	Invasive species utilise flow of the watercourse for dispersal. The implementation of the drought option will lead to a reduction in flow and is therefore not anticipated to increase the spread of aquatic invasive non-native species.	None	None
Population and human health	2.1 To protect and improve health and well-being and reducTo protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will deliver up to 3.52 Ml/d helping to maintain essential public water supplies during drought conditions, and therefore help maintain public health and well-being.	None	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Moderate	Short-term	Temporary	Low (adverse)	Low (adverse)	There is extensive non-club administered angling along the River Rother. However, flows during a drought will be low such that further reduction in flows would not be likely to further reduce the angling quality of the reach.	Negligible adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Minor beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	No impacts on material assets are anticipated. The option involve modifications to compensation flow only and no changes to energy use, generated waste or sustainable designs are envisaged. The option will make use of existing infrastructure.	None	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote the sustainable management of natural resources have been identified for this option.	None	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	Impacts towards reaches of four watercourse were considered in the assessment, including: the Bridgehouse Beck, River Worth, River Aire and River Aire from to River Calder. Water quality pressures for this drought option include a STW. There is a moderate risk that there would be an increase in total ammonia concentration above values which supports good WFD status for fish and invertebrates. There is also moderate risk that there would be a decrease in dissolved oxygen concentration below values which support good WFD status for fish and invertebrates. Overall there is a moderate to minor risk to water quality as a result of the drought option.	Moderate adverse	None
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Small	Moderate	Short-term	Temporary	Major (adverse)	Medium (adverse)	The drought option would lead to a major to moderate reduction in low flows (up to 67%), with an associated reduction in wetted width and depth over a 18.6 km stretch of the impacted reaches. Major hydrological impacts are anticipated towards the impacted reaches. Overall major to minor impacts are anticipated towards river habitats associated with the drought option.	Major adverse	None
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity. The drought option will be accompanied by water conservation campaigns to promote efficient use of water to protect the environment and safeguard supplies. Water availability is at least 70% in the zone of influence of the drought option.	None	Minor beneficial
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote long-term improvement in water efficiency have been identified for this option.	None	None
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	N/A	N/A	N/A	N/A	N/A	N/A	There are no land use changes associated with reduced compensation flow. It is anticipated that there will be no impacts on geologically sensitive sites.	None	None
Air and Climate	6.1 To maintain and improve air quality.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option involves a reduction in compensation flow with no change in existing abstraction volumes and would therefore not result in any increases in emissions to atmosphere.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option would not be associated with an increase in energy consumption, therefore, no changes to greenhouse gas emissions are envisaged.	None	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	Drought options are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought conditions which may become more prevalent due to climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	N/A	N/A	N/A	N/A	N/A	N/A	Nearby ancient monuments are not water-dependent and would not be impacted by the drought option.	None	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	Small	Moderate	Short-term	Temporary	Low (adverse)	Medium (adverse)	A significant reduction in the level of Bridgehouse Beck and Leeming Water would have a visual impact on the landscape setting of the Calder/Aire Link and Bronte Way National Trails respectively. However, the reduced flow of the reaches would be short-term and temporary.	Minor adverse	None

Drought Plan Option Name: North West Area Reservoir 3

Drought Plan Option Description: Reduced compensation flow release from North West Area Reservoir 3 from 2.75-4.00 Ml/d to 0.91-1.32 Ml/d.

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	The impact of reduced flows will result in a number of impacts, including: the stranding of individuals or groups; deterioration or loss of habitats; fragmentation of habitats; increased mortality; and changes in morphology or behaviour. The drought option is assessed as having an impact on the following NERC and notable species: Minor impact for bullhead. Moderate impact for white-clawed crayfish, grayling, bullhead, river lamprey and European eel. Major impact for brown trout and brook lamprey. There is a major risk to WFD status (fish) and a moderate risk of deterioration of WFD status (invertebrates).	Moderate adverse	None
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	N/A	N/A	N/A	N/A	N/A	N/A	Invasive species utilise flow of the watercourse for dispersal. The implementation of the drought option will lead to a reduction in flow and is therefore not anticipated to increase the spread of aquatic invasive non-native species.	None	None
Population and human health	2.1 To protect and improve health and well-being and reducTo protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will deliver up to 2.68Ml/d helping to maintain essential public water supplies during drought conditions, and therefore help maintain public health and well-being.	None	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Moderate	Short-term	Temporary	Low (adverse)	Low (adverse)	There is extensive non-club administered angling along the River Worth. However, flows during a drought will be low such that further reduction in flows would not be likely to further reduce the angling quality of the reach.	Negligible adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Minor beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	No impacts on material assets are anticipated. The option involve modifications to compensation flow only and no changes to energy use, generated waste or sustainable designs are envisaged. The option will make use of existing infrastructure.	None	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote the sustainable management of natural resources have been identified for this option.	None	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	Impacts towards reaches of four watercourse were considered in the assessment, including: the Bridgehouse Beck, River Worth, River Aire and River Aire. Water quality pressures include one WwTW. There is a moderate risk that the drought option flow reduction would reduce the dissolved oxygen saturation and increase total ammonia concentrations downstream beyond values which support 'good' or 'high' status for fish and invertebrates. Overall there is a moderate to minor risk to water quality as a result of the drought option.	Moderate adverse	None
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Small	Moderate	Short-term	Temporary	High (adverse)	Medium (adverse)	The drought option would lead to a major to moderate reduction in low flows (up to 67%), with associated reduction in wetted width and depth over a 18.9 km stretch of the impacted reaches. Major hydrological impacts are anticipated towards the impacted reaches. Overall major to minor impacts are anticipated towards river habitats associated with the drought option.	Major adverse	None
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity. The drought permit will be accompanied by water conservation campaigns to promote efficient use of water to protect the environment and safeguard supplies. Water availability is at least 70% in the zone of influence of the drought option.	None	Minor beneficial
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote long-term improvement in water efficiency have been identified for this option.	None	None
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	N/A	N/A	N/A	N/A	N/A	N/A	There are no land use changes associated with reduced compensation flow. It is anticipated that there will be no impacts on geologically sensitive sites.	None	None
Air and Climate	6.1 To maintain and improve air quality.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option involves a reduction in compensation flow with no change in existing abstraction volumes and would therefore not result in any increases in emissions to atmosphere.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option would not be associated with an increase in energy consumption, therefore, no changes to greenhouse gas emissions are envisaged.	None	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	Drought options are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought conditions which may become more prevalent due to climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	N/A	N/A	N/A	N/A	N/A	N/A	There are no heritage assets or sites of archaeological importance within proximity to the impacted reaches.	None	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	Small	Moderate	Short-term	Temporary	Low (adverse)	Medium (adverse)	A significant reduction in the level of Bridgehouse Beck and Leeming Water would have a visual impact on the landscape setting of the Calder/Aire Link and Bronte Way National Trails respectively. However, the reduced flow of the reaches would be short-term and temporary.	Minor adverse	None

Drought Plan Option Name: North West Area Reservoir 4

Drought Plan Option Description: Reduced compensation flow release from North West Area Reservoir 4 from 1.80-3.60 Ml/d to 1.20 Ml/d.

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	The reduced flows will result in a number of impacts, including: the stranding of individuals or groups; deterioration or loss of habitats; fragmentation of habitats; increased mortality; and changes in morphology or behaviour. The drought option is assessed as having an impact on the following NERC and notable species: Moderate impact for brown trout, bullhead, white-clawed crayfish and water vole. There is a minor risk of deterioration of WFD status (invertebrates) and a moderate risk to WFD status (fish).	Moderate adverse	None
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	N/A	N/A	N/A	N/A	N/A	N/A	Invasive species utilise flow of the watercourse for dispersal. The implementation of the drought option will lead to a reduction in flow and is therefore not anticipated to increase the spread of aquatic invasive non-native species.	None	None
Population and human health	2.1 To protect and improve health and well-being and reducTo protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will deliver up to 2.40Ml/d, helping to maintain essential public water supplies during drought conditions, and therefore help maintain public health and well-being.	None	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Moderate	Short-term	Temporary	Low (adverse)	Low (adverse)	There is casual angling present on the impacted reach. However, flows during a drought will be low such that further reduction in flows would not be likely to further reduce the angling quality of the reach.	Negligible adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Minor beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	No impacts on material assets are anticipated. The option involves modifications to compensation flow only and no changes to energy use, generated waste or sustainable designs are envisaged. The option will make use of existing infrastructure.	None	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote the sustainable management of natural resources have been identified for this option.	None	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Small	Moderate	Short-term	Temporary	Low (adverse)	Medium (adverse)	Impacts towards reaches of the Harden Beck watercourse were considered in the assessment. One STW presents a local water quality pressure, particularly associated with ammonia quality which will slightly raise the risk of water quality deterioration. The risk of water quality deterioration below what supports good WFD status for fish and invertebrates is minor to moderate for dissolved oxygen and total ammonia. Overall there is a moderate to minor risk to water quality as a result of the drought option.	Minor adverse	None
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Small	Moderate	Short-term	Temporary	High (adverse)	Medium (adverse)	The drought option would lead to a major reduction in low flows (up to 67%), with associated reduction in wetted width and depth over 7.9 km of the impacted reaches. Major hydrological impacts are anticipated towards the impacted reaches. Overall moderate impacts are anticipated towards river habitats associated with the drought option.	Major adverse	None
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity. The drought option will be accompanied by water conservation campaigns to promote efficient use of water to protect the environment and safeguard supplies. Water availability is at least 70% in the zone of influence of the drought option.	None	Minor beneficial
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote long-term improvement in water efficiency have been identified for this option.	None	None
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	N/A	N/A	N/A	N/A	N/A	N/A	There are no land use changes associated with reduced compensation flow. It is anticipated that there will be no impacts on geologically sensitive sites.	None	None
Air and Climate	6.1 To maintain and improve air quality.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option involves a reduction in compensation flow with no change in existing abstraction volumes and would therefore not result in any increases in emissions to atmosphere.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option would not be associated with an increase in energy consumption, therefore, no changes to greenhouse gas emissions are envisaged.	None	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Small	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	Drought options are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought conditions which may become more prevalent due to climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	N/A	N/A	N/A	N/A	N/A	N/A	There are no heritage assets or sites of archaeological importance within proximity to the impacted reaches.	None	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	Small	Moderate	Short-term	Temporary	Low (adverse)	Medium (adverse)	A significant reduction in the flow level of the impacted reaches would have a visual impact on the landscape setting of several national trails that run alongside Denholme Beck. However, the reduced flow of the reaches would be short-term and temporary.	Minor adverse	None

Drought Plan Option Name: North West Area Reservoir 5

Drought Plan Option Description: Reduced compensation flow release from North West Area Reservoir 5 from 6.30 Ml/d to 2.08 Ml/d.

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	Reduced flows will result in a number of impacts, including: the stranding of individuals or groups; deterioration or loss of habitats; fragmentation of habitats; increased mortality; and changes in morphology or behaviour. The drought option is assessed as having an impact on the following NERC and notable species: Minor impact for barbel, bullhead and grayling. Moderate impact for brown trout, water vole and European eel. There is a minor risk of deterioration of WFD status (invertebrates & fish).	Moderate adverse	None
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	N/A	N/A	N/A	N/A	N/A	N/A	Invasive species utilise flow of the watercourse for dispersal. The implementation of the drought option will lead to a reduction in flow and is therefore not anticipated to increase the spread of aquatic invasive non-native species.	None	None
Population and human health	2.1 To protect and improve health and well-being and reducTo protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will deliver up to 4.22Ml/d, helping to maintain essential public water supplies during drought conditions, and therefore help maintain public health and well-being.	None	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Low	Short-term	Temporary	Medium (adverse)	Low (adverse)	There is an organised angling club present on the impacted reach. The potential impact on the angling club is uncertain, however, flows during a drought will be low such that a further reduction in flow is not likely to reduce the angling quality of the reach.	Minor adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Minor beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	No impacts on material assets are anticipated. The option involves modifications to compensation flow only and no changes to energy use, generated waste or sustainable designs are envisaged. The option will make use of existing infrastructure.	None	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote the sustainable management of natural resources have been identified for this option.	None	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	Impacts towards reaches of the River Aire were considered in the assessment. Water quality pressures include one WwTW. Due to this moderate hydrological impact in the upper reach, the risk of water quality deterioration below what can support good WFD status for fish and invertebrates is moderate for total ammonia, dissolved oxygen and phosphate. Overall there is a moderate risk to water quality as a result of the drought option.	Moderate adverse	None
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Small	Moderate	Short-term	Temporary	Major (adverse)	Medium (adverse)	The drought option would lead to a major reduction in low flows (up to 67%), with associated reduction in wetted width and depth over 6.5km of the impacted reaches. Moderate hydrological impacts are anticipated towards the impacted reaches. Overall minor impacts are anticipated towards river habitats associated with the drought option.	Major adverse	None
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity. The drought option will be accompanied by water conservation campaigns to promote efficient use of water to protect the environment and safeguard supplies. Water availability is at least 70% in the zone of influence of the drought option.	None	Minor beneficial
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote long-term improvement in water efficiency have been identified for this option.	None	None
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	N/A	N/A	N/A	N/A	N/A	N/A	There are no land use changes associated with reduced compensation flow. It is anticipated that there will be no impacts on geologically sensitive sites.	None	None
Air and Climate	6.1 To maintain and improve air quality.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option involves a reduction in compensation flow with no change in existing abstraction volumes and would therefore not result in any increases in emissions to atmosphere.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option would not be associated with an increase in energy consumption, therefore, no changes to greenhouse gas emissions are envisaged.	None	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	Drought options are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought conditions which may become more prevalent due to climate change.	None	Minor beneficial

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	N/A	N/A	N/A	N/A	N/A	N/A	There are no heritage assets or sites of archaeological importance within proximity to the impacted reaches.	None	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	Small	Moderate	Short-term	Temporary	Low (adverse)	Medium (adverse)	A significant reduction in the level of Harden Beck would have a visual impact on the landscape setting of several national trails that run alongside Harden Beck. However, the reduced flow of the reaches would be short-term and temporary.	Minor adverse	None

Drought Plan Option Name: North West Area Reservoir 6

Drought Plan Option Description: Reduced compensation flow release from North West Area Reservoir 6 from 1.00 Ml/d to 0.33 Ml/d.

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Small	Moderate	Short-term	Temporary	Low (adverse)	Medium (adverse)	Reduced flow levels in the impacted reaches will result in a number of impacts, including: the stranding of individuals or groups; deterioration or loss of habitats; fragmentation of habitats; increased mortality; and changes in morphology or behaviour. The drought option is assessed as having an impact on the following NERC and notable species: Moderate impact for bullhead. Major impact for brown trout. There is a moderate risk of deterioration of WFD status (fish and invertebrates).	Minor adverse	None
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	N/A	N/A	N/A	N/A	N/A	N/A	Invasive species utilise flow of the watercourse for dispersal. The implementation of the drought option will lead to a reduction in flow and is therefore not anticipated to increase the spread of aquatic invasive non-native species.	None	None
Population and human health	2.1 To protect and improve health and well-being and reducTo protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will deliver up to 0.67 Ml/d, helping to maintain essential public water supplies during drought conditions, and therefore help maintain public health and well-being.	None	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Low	Short-term	Temporary	Low (adverse)	Low (adverse)	There is casual angling present on the impacted reach. The potential impact on the angling club is low and flows during a drought will be low such that a further reduction in flow is not likely to reduce the angling quality of the reach.	Negligible adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Minor beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	No impacts on material assets are anticipated. The option involves modifications to compensation flow only and no changes to energy use, generated waste or sustainable designs are envisaged. The option will make use of existing infrastructure.	None	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote the sustainable management of natural resources have been identified for this option.	None	None
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Small	Moderate	Short-term	Temporary	Low (adverse)	Medium (adverse)	Impacts towards reaches of the River Aire were considered in the assessment. There is a low risk of deterioration of WFD status associated with dissolved oxygen and ammonia in the impacted reaches. Overall there is a minor risk to water quality as a result of the drought option.	Minor adverse	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Small	Moderate	Short-term	Temporary	Major (adverse)	Medium (adverse)	The drought option would lead to a major reduction in low flows (up to 67%), with associated reduction in wetted width and depth over 3.4km of the impacted reaches. Major hydrological impacts are anticipated towards the impacted reaches. However, these impacts will be short-term and temporary. Overall major impacts are anticipated towards river habitats associated with the drought option.	Major adverse	None
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity. The drought permit will be accompanied by water conservation campaigns to promote efficient use of water to protect the environment and safeguard supplies. Water availability is at least 70% in the zone of influence of the drought option.	None	Minor beneficial
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote long-term improvement in water efficiency have been identified for this option.	None	None
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	N/A	N/A	N/A	N/A	N/A	N/A	There are no land use changes associated with reduced compensation flow. It is anticipated that there will be no impacts on geologically sensitive sites.	None	None
Air and Climate	6.1 To maintain and improve air quality.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option involves a reduction in compensation flow with no change in existing abstraction volumes and would therefore not result in any increases in emissions to atmosphere.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option would not be associated with an increase in energy consumption, therefore, no changes to greenhouse gas emissions are envisaged.	None	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	Drought options are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought conditions which may become more prevalent due to climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	N/A	N/A	N/A	N/A	N/A	N/A	There are 16 scheduled ancient monuments within proximity to the impacted reaches. However, the monuments are not water dependent and would not be impacted by the drought option.	None	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	Small	Moderate	Short-term	Temporary	Low (adverse)	Medium (adverse)	A significant reduction in the level of Harden Beck would have a visual impact on the landscape setting of Millennium Way and Dales Way Link which run alongside Loadpit Beck. However, the reduced flow of the reaches would be short-term and temporary.	Minor adverse	None

Drought Plan Option Name: North West Area Reservoir 7

Drought Plan Option Description: Reduced compensation flow release from North West Area Reservoir 7 from 0.79 Ml/d to 0.26 Ml/d.

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	The reduced flows will result in a number of impacts, including: the stranding of individuals or groups; deterioration or loss of habitats; fragmentation of habitats; increased mortality; and changes in morphology or behaviour. The drought option is assessed as having an impact on the following NERC and Notable species: Major impact for brown trout and moderate impact for bullhead. There is a moderate risk of deterioration of WFD status (fish and invertebrates).	Moderate adverse	None
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	N/A	N/A	N/A	N/A	N/A	N/A	Invasive species utilise flow of the watercourse for dispersal. The implementation of the drought option will lead to a reduction in flow and is therefore not anticipated to increase the spread of aquatic invasive non-native species.	None	None
Population and human health	2.1 To protect and improve health and well-being and reducTo protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will deliver up to 0.53Ml/d helping to maintain essential public water supplies during drought conditions, and therefore help maintain public health and well-being.	None	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Low	Short-term	Temporary	Low (adverse)	Low (adverse)	The presence of angling on Jum Beck is unknown. Flows during a drought will be low such that a further reduction in flow is not likely to reduce the angling quality of the reach.	Negligible adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Minor beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	No impacts on material assets are anticipated. The option involves modifications to compensation flow only and no changes to energy use, generated waste or sustainable designs are envisaged. The option will make use of existing infrastructure.	None	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote the sustainable management of natural resources have been identified for this option.	None	None
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Small	Moderate	Short-term	Temporary	Low (adverse)	Medium (adverse)	Impacts towards reaches of the Gill Beck watercourse were considered in the assessment. There is a medium risk of deterioration of WFD status associated with phosphate in the impacted reaches. Overall there is a moderate risk to water quality as a result of the drought option.	Moderate adverse	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Small	Moderate	Short-term	Temporary	Major (adverse)	Medium (adverse)	The drought option would lead to a major reduction in low flows (up to 67%), with associated reduction in wetted width and depth over 1km of the impacted reaches. Major hydrological impacts are anticipated towards the impacted reaches and to flow depleted reaches. However, these impacts will be short-term and temporary. Overall major impacts are anticipated towards river habitats associated with the drought option.	Major adverse	None
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity. The drought permit will be accompanied by water conservation campaigns to promote efficient use of water to protect the environment and safeguard supplies. Water availability is at least 70% in the zone of influence of the drought option.	None	Minor beneficial
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote long-term improvement in water efficiency have been identified for this option.	None	None
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	N/A	N/A	N/A	N/A	N/A	N/A	There are no land use changes associated with reduced compensation flow. It is anticipated that there will be no impacts on geologically sensitive sites.	None	None
Air and Climate	6.1 To maintain and improve air quality.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option involves a reduction in compensation flow with no change in existing abstraction volumes and would therefore not result in any increases in emissions to atmosphere.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option would not be associated with an increase in energy consumption, therefore, no changes to greenhouse gas emissions are envisaged.	None	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	Drought options are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought conditions which may become more prevalent due to climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	N/A	N/A	N/A	N/A	N/A	N/A	There are no heritage assets or sites of archaeological importance in proximity to the impacted reaches of the drought option.	None	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	N/A	N/A	N/A	N/A	N/A	N/A	There are no landscape assets in proximity to the impacted reaches of the drought option.	None	None

Drought Plan Option Name: North West Area Reservoir 8

Drought Plan Option Description: Reduced compensation flow release from North West Area Reservoir 8 from 0.43 Ml/d to 0.14 Ml/d.

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Small	Low	Short-term	Temporary	Medium (adverse)	Medium (adverse)	The reduced flows will result in a number of impacts, including: the stranding of individuals or groups; deterioration or loss of habitats; fragmentation of habitats; increased mortality; and changes in morphology or behaviour. The drought option is assessed as having an impact on the following NERC and notable species: Minor impact for bullhead. Major impact for white-clawed crayfish and brown trout. Moderate impact for bullhead. There is a moderate risk of deterioration of WFD status (invertebrates & fish).	Moderate adverse	None
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	N/A	N/A	N/A	N/A	N/A	N/A	Invasive species utilise flow of the watercourse for dispersal. The implementation of the drought option will lead to a reduction in flow and is therefore not anticipated to increase the spread of aquatic invasive non-native species.	None	None
Population and human health	2.1 To protect and improve health and well-being and reducTo protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Small	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will deliver up to 0.29Ml/d helping to maintain essential public water supplies during drought conditions, and therefore help maintain public health and well-being.	None	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Low	Short-term	Temporary	Low (adverse)	Low (adverse)	The presence of angling on Weecher Brow Beck is unknown. Flows during a drought will be low such that a further reduction in flow is not likely to reduce the angling quality of the reach.	Minor adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Small	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Minor beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Small	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	No impacts on material assets are anticipated. The option involves modifications to compensation flow only and no changes to energy use, generated waste or sustainable designs are envisaged. The option will make use of existing infrastructure.	None	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote the sustainable management of natural resources have been identified for this option.	None	None
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	Impacts towards reaches of the Gill Beck watercourse were considered in the assessment. There is a moderate risk of deterioration of WFD status associated with phosphate in the impacted reaches. Overall there is a moderate risk to water quality as a result of the drought option.	Moderate adverse	None
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Small	Moderate	Short-term	Temporary	Major (adverse)	Medium (adverse)	The drought option would lead to a major reduction in low flows (up to 67%), with associated reduction in wetted width and depth over 6.4 km of the impacted reaches. Major hydrological impacts are anticipated towards the impacted reaches. Overall major impacts are anticipated towards river habitats associated with the drought option.	Major adverse	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Small	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity. The drought option will be accompanied by water conservation campaigns to promote efficient use of water to protect the environment and safeguard supplies. Water availability is at least 70% in the zone of influence of the drought option.	None	Minor beneficial
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote long-term improvement in water efficiency have been identified for this option.	None	None
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	N/A	N/A	N/A	N/A	N/A	N/A	There are no land use changes associated with reduced compensation flow. It is anticipated that there will be no impacts on geologically sensitive sites.	None	None
Air and Climate	6.1 To maintain and improve air quality.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option involves a reduction in compensation flow with no change in existing abstraction volumes and would therefore not result in any increases in emissions to atmosphere.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option would not be associated with an increase in energy consumption, therefore, no changes to greenhouse gas emissions are envisaged.	None	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Small	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	Drought options are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought conditions which may become more prevalent due to climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	N/A	N/A	N/A	N/A	N/A	N/A	There are four Scheduled Monuments in proximity to the impacted reaches. However, they are not water dependent and would not be impacted by the drought option.	None	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	Small	Moderate	Short-term	Temporary	Low (adverse)	Medium (adverse)	A significant reduction in flow levels would have a visual impact on the landscape setting of Millennium Way National Trail which runs alongside Weecher Brow Beck. However, the reduced flow of the reaches would be short-term and temporary.	Minor adverse	None

Drought Plan Option Name: North West Area Reservoir 9

Drought Plan Option Description: Reduced compensation flow release from North West Area Reservoir 9 from 2.41 Ml/d to 0.80 Ml/d.

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Small	Low	Short-term	Temporary	Medium (adverse)	Medium (adverse)	The reduced flows will result in a number of impacts, including: the stranding of individuals or groups; deterioration or loss of habitats; fragmentation of habitats; increased mortality; and changes in morphology or behaviour. The drought option is assessed as having an impact on the following NERC and Notable species: Moderate impact for bullhead and grayling. Major impact for brown trout. There is a major risk of deterioration of WFD status (fish) and a moderate risk for WFD status (invertebrates).	Moderate adverse	None
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	N/A	N/A	N/A	N/A	N/A	N/A	Invasive species utilise flow of the watercourse for dispersal. The implementation of the drought option will lead to a reduction in flow and is therefore not anticipated to increase the spread of aquatic invasive non-native species.	None	None
Population and human health	2.1 To protect and improve health and well-being and reducTo protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Small	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will deliver up to 1.61Ml/d helping to maintain essential public water supplies during drought conditions, and therefore help maintain public health and well-being.	None	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Low	Short-term	Temporary	Low (adverse)	Low (adverse)	There is casual angling present on Silsden Beck. However, flows during a drought will be low such that a further reduction in flow is not likely to reduce the angling quality of the reach.	Negligible adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Small	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Minor beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Small	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	No impacts on material assets are anticipated. The option involves modifications to compensation flow only and no changes to energy use, generated waste or sustainable designs are envisaged. The option will make use of existing infrastructure.	None	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote the sustainable management of natural resources have been identified for this option.	None	None
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Small	Moderate	Short-term	Temporary	Low (adverse)	Medium (adverse)	Impacts towards reaches of the Silsden Beck watercourse were considered in the assessment. There is a low risk of deterioration of WFD status associated with dissolved oxygen, ammonia and phosphate in the impacted reaches. Overall there is a minor risk to water quality as a result of the drought option.	Minor adverse	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Small	Moderate	Short-term	Temporary	High (adverse)	Medium (adverse)	The drought option would lead to a major reduction in low flows (up to 67%), with an associated reduction in wetted width and depth over 3km of Silsden Beck. Major hydrological impacts are anticipated towards the impacted reaches. However, these impacts will be limited to the low flow regime of the water course. Overall major impacts are anticipated towards river habitats associated with the drought option.	Major adverse	None
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Small	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity. The drought option will be accompanied by water conservation campaigns to promote efficient use of water to protect the environment and safeguard supplies. Water availability is at least 70% in the zone of influence of the drought option.	None	Minor beneficial
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote long-term improvement in water efficiency have been identified for this option.	None	None
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	N/A	N/A	N/A	N/A	N/A	N/A	There are no land use changes associated with reduced compensation flow. It is anticipated that there will be no impacts on geologically sensitive sites.	None	None
Air and Climate	6.1 To maintain and improve air quality.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option involves a reduction in compensation flow with no change in existing abstraction volumes and would therefore not result in any increases in emissions to atmosphere.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option would not be associated with an increase in energy consumption, therefore, no changes to greenhouse gas emissions are envisaged.	None	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Small	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	Drought options are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought conditions which may become more prevalent due to climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	N/A	N/A	N/A	N/A	N/A	N/A	There are no heritage assets or sites of archaeological importance in proximity to the impacted reaches of the drought option.	None	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	Small	Moderate	Short-term	Temporary	Low (adverse)	Medium (adverse)	A significant reduction in the level of Silsden Beck would have a visual impact on the landscape setting of Millennium Way National Trail which runs alongside Weecher Brow Beck. However, the reduced flow of the reaches would be short-term and temporary.	Minor adverse	None

Drought Plan Option Name: North West Area Reservoir 10

Drought Plan Option Description: Reduced compensation flow release from North West Area Reservoir 10 from 1.19 Ml/d to 0.39 Ml/d.

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	A reduction in flow levels will result in a number of impacts, including: the stranding of individuals or groups; deterioration or loss of habitats; fragmentation of habitats; increased mortality; and changes in morphology or behaviour. The drought option is assessed as having an impact on the following NERC and notable species: Minor impact for bullhead. Moderate impact for brown trout, brook lamprey, and white-clawed crayfish. There is a moderate risk of deterioration of WFD status (fish) and a minor risk for WFD status (invertebrates).	Moderate adverse	None
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	N/A	N/A	N/A	N/A	N/A	N/A	Invasive species utilise flow of the watercourse for dispersal. The implementation of the drought option will lead to a reduction in flow and is therefore not anticipated to increase the spread of aquatic invasive non-native species.	None	None
Population and human health	2.1 To protect and improve health and well-being and reducTo protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will deliver up to 0.80Ml/d, helping to maintain essential public water supplies during drought conditions, and therefore help maintain public health and well-being.	None	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Moderate	Short-term	Temporary	Low (adverse)	Low (adverse)	There is casual angling present on Embasy Beck. However, flows during a drought will be low such that a further reduction in flow is not likely to reduce the angling quality of the reach.	Negligible adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Minor beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	No impacts on material assets are anticipated. The option involves modifications to compensation flow only and no changes to energy use, generated waste or sustainable designs are envisaged. The option will make use of existing infrastructure.	None	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote the sustainable management of natural resources have been identified for this option.	None	None
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Small	Moderate	Short-term	Temporary	Low (adverse)	Medium (adverse)	Impacts towards reaches of the Haw Beck and Eller Beck watercourses were considered in the assessment. There is a medium risk of deterioration of WFD status associated with dissolved oxygen and ammonia in the impacted reaches. Overall there is a moderate to minor risk to water quality as a result of the drought option.	Minor adverse	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Small	Moderate	Short-term	Temporary	High (adverse)	Medium (adverse)	The drought option would lead to a major reduction in low flows, with an associated reduction in wetted width and depth over 6.8 km of the impacted reaches. Major hydrological impacts are anticipated towards the impacted reaches and to flow depleted reaches. However, these impacts will be limited to the low flow regime of the water course. Overall major to minor impacts are anticipated towards river habitats associated with the drought option	Major adverse	None
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity. The drought option will be accompanied by water conservation campaigns to promote efficient use of water to protect the environment and safeguard supplies. Water availability is at least 70% in the zone of influence of the drought option.	None	Minor beneficial
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote long-term improvement in water efficiency have been identified for this option.	None	None
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	N/A	N/A	N/A	N/A	N/A	N/A	There are no land use changes associated with reduced compensation flow. It is anticipated that there will be no impacts on geologically sensitive sites.	None	None
Air and Climate	6.1 To maintain and improve air quality.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option involves a reduction in compensation flow with no change in existing abstraction volumes and would therefore not result in any increases in emissions to atmosphere.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option would not be associated with an increase in energy consumption, therefore, no changes to greenhouse gas emissions are envisaged.	None	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	Drought options are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought conditions which may become more prevalent due to climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	N/A	N/A	N/A	N/A	N/A	N/A	One Scheduled Ancient Monument is in proximity to the impacted reaches of the drought option. However, the monument is not water dependent and would not be affected by implementation of the drought measure.	None	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	N/A	N/A	N/A	N/A	N/A	N/A	There are no landscape features or national trails in proximity to the impacted reaches of the drought option.	None	None

Drought Plan Option Name: North West Area Reservoir 11

Drought Plan Option Description: Reduced compensation flow release from North West Area Reservoir 11 from 3.80-15.10 Ml/d to 1.25-4.98 Ml/d.

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Small	Low	Short-term	Temporary	Medium (adverse)	Medium (adverse)	The reduced flows will result in a number of impacts, including: the stranding of individuals or groups; deterioration or loss of habitats; fragmentation of habitats; increased mortality; and changes in morphology or behaviour. The drought option is assessed as having an impact on the following NERC and notable species: Moderate impact for bullhead. Major impact for Atlantic Salmon, white-clawed crayfish and brown trout There is a major risk of deterioration of WFD status (fish) and a moderate risk of deterioration of WFD status (invertebrates).	Moderate adverse	None
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	N/A	N/A	N/A	N/A	N/A	N/A	Invasive species utilise flow of the watercourse for dispersal. The implementation of the drought option will lead to a reduction in flow and is therefore not anticipated to increase the spread of aquatic invasive non-native species.	None	None
Population and human health	2.1 To protect and improve health and well-being and reducTo protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Small	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will deliver up to 10.12 Ml/d helping to maintain essential public water supplies during drought conditions, and therefore help maintain public health and well-being.	None	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Low	Short-term	Temporary	Low (adverse)	Low (adverse)	The reduction in flows and levels in the impacted reaches would have a minor impact on casual angling activities.	Minor adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Small	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Minor beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Small	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	No impacts on material assets are anticipated. The option involves modifications to compensation flow only and no changes to energy use, generated waste or sustainable designs are envisaged. The option will make use of existing infrastructure.	None	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote the sustainable management of natural resources have been identified for this option.	None	None
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Small	Moderate	Short-term	Temporary	Low (adverse)	Medium (adverse)	Impacts towards reaches of the Barben Beck/River Dibb Catchment watercourse were considered in the assessment. Water quality is described as typically supporting high WFD status for fish and invertebrates without the drought option. Water quality throughout the study area assessed as at low risk of deteriorating, from implementation of the drought option. Overall there is a minor risk to water quality as a result of the drought option.	Minor adverse	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Small	Moderate	Short-term	Temporary	Major (adverse)	Medium (adverse)	The drought option would lead to a major reduction in low flows (up to 67%), with an associated reduction in wetted width and depth over 5.2 km of the impacted reaches. Major hydrological impacts are anticipated towards the impacted reaches. Overall major impacts are anticipated towards river habitats associated with the drought option.	Major adverse	None
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Small	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity. The drought option will be accompanied by water conservation campaigns to promote efficient use of water to protect the environment and safeguard supplies. Water availability is at least 70% in the zone of influence of the drought option.	None	Minor beneficial
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote long-term improvement in water efficiency have been identified for this option.	None	None
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	N/A	N/A	N/A	N/A	N/A	N/A	There are no land use changes associated with reduced compensation flow. It is anticipated that there will be no impacts on geologically sensitive sites.	None	None
Air and Climate	6.1 To maintain and improve air quality.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option involves a reduction in compensation flow with no change in existing abstraction volumes and would therefore not result in any increases in emissions to atmosphere.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option would not be associated with an increase in energy consumption, therefore, no changes to greenhouse gas emissions are envisaged.	None	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Small	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	Drought options are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought conditions which may become more prevalent due to climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	N/A	N/A	N/A	N/A	N/A	N/A	One Scheduled Ancient Monument is in proximity to the impacted reaches. However, it is not water dependent and would not be impacted by the drought option.	None	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	Small	N/A	N/A	N/A	N/A	N/A	There are no designated landscapes in proximity to the impacted reaches.	None	None

Drought Plan Option Name: North West Area Reservoir 12

Drought Plan Option Description: Reduced compensation flow release from North West Area Reservoir 12 from 0.09Ml/d to 0.03 Ml/d.

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Small	Low	Short-term	Temporary	Low (adverse)	Medium (adverse)	The reduced flows will result in a number of impacts, including: the stranding of individuals or groups; deterioration or loss of habitats; fragmentation of habitats; increased mortality; and changes in morphology or behaviour. The drought option is assessed as having an impact on the following NERC and notable species: Major impact for brown trout. Moderate impact for white-clawed crayfish, bullhead and water vole. There is a moderate risk of deterioration of WFD status (invertebrates & fish).	Moderate adverse	None
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	N/A	N/A	N/A	N/A	N/A	N/A	Invasive species utilise flow of the watercourse for dispersal. The implementation of the drought option will lead to a reduction in flow and is therefore not anticipated to increase the spread of aquatic invasive non-native species.	None	None
Population and human health	2.1 To protect and improve health and well-being and reducTo protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Small	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will deliver up to 0.06Ml/d helping to maintain essential public water supplies during drought conditions, and therefore help maintain public health and well-being.	None	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Low	Short-term	Temporary	Low (adverse)	Low (adverse)	There are a number of footpaths, including the official Bradford Millennium Way footpath. There is however no angling on the reservoir or the watercourses flowing down to the River Wharfe. Flows during a drought will be low such that a further reduction in flow is not likely to impact recreational activities at the reservoir or watercourses downstream.	Negligible adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Small	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Minor beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Small	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	No impacts on material assets are anticipated. The option involves modifications to compensation flow only and no changes to energy use, generated waste or sustainable designs are envisaged. The option will make use of existing infrastructure.	None	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote the sustainable management of natural resources have been identified for this option.	None	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Small	Moderate	Short-term	Temporary	Low (adverse)	Medium (adverse)	Impacts towards reaches of the Carr Beck watercourse were considered in the assessment. There is a low risk of deterioration of WFD status associated with total ammonia, oxygen and phosphate in the impacted reaches. Overall there is a minor risk to water quality as a result of the drought option.	Minor adverse	None
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Small	Moderate	Short-term	Temporary	Major (adverse)	Medium (adverse)	The drought option would lead to a major reduction in low flows (up to 67%), with associated reduction in wetted width and depth over 5.1 km of the impacted reaches. Major hydrological impacts are anticipated towards the impacted reaches. Overall major impacts are anticipated towards river habitats associated with the drought option.	Major adverse	None
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Small	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity. The drought option will be accompanied by water conservation campaigns to promote efficient use of water to protect the environment and safeguard supplies. Water availability is at least 95% in the zone of influence of the drought option.	None	Minor beneficial
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote long-term improvement in water efficiency have been identified for this option.	None	None
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	N/A	N/A	N/A	N/A	N/A	N/A	There are no land use changes associated with reduced compensation flow. It is anticipated that there will be no impacts on geologically sensitive sites.	None	None
Air and Climate	6.1 To maintain and improve air quality.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option involves a reduction in compensation flow with no change in existing abstraction volumes and would therefore not result in any increases in emissions to atmosphere.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option would not be associated with an increase in energy consumption, therefore, no changes to greenhouse gas emissions are envisaged.	None	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Small	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	Drought options are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought conditions which may become more prevalent due to climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	N/A	N/A	N/A	N/A	N/A	N/A	There are four Scheduled Monuments in proximity (<500m) to the impacted reaches. However, they are not water dependent and would not be impacted by the drought option.	None	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	Small	Moderate	Short-term	Temporary	Low (adverse)	Medium (adverse)	A small reduction in flow levels would have a limited visual impact on the landscape setting of the Bradford Millennium Way footpath. However, the reduced flow of the reaches would be short-term and temporary.	Minor adverse	None

Drought Plan Option Name: South Area Reservoir 1

Drought Plan Option Description: Reduced compensation flow release from South Area Reservoir 1 from 2.70 Ml/d to 0.89 Ml/d.

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Small	Low	Short-term	Temporary	Medium (adverse)	Medium (adverse)	The reduced flows will result in a number of impacts, including: the stranding of individuals or groups; deterioration or loss of habitats; fragmentation of habitats; increased mortality; and changes in morphology or behaviour. The drought option is assessed as having an impact on the following NERC and notable species: Major impact for brook lamprey, brown trout, European eel and grayling. Moderate impact for white-clawed crayfish, water vole, barbel, bullhead and river lamprey . There is a moderate risk of deterioration of WFD status (invertebrates) and a major risk to WFD status (fish).	Moderate adverse	None
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	N/A	N/A	N/A	N/A	N/A	N/A	A Fishery and informal angling is present on the impacted reach that would be subject to major flow reductions. However, these impacts will be minor against a baseline of drought conditions.	None	None
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will deliver up to 1.81 Ml/d, helping to maintain essential public water supplies during drought conditions, and therefore help maintain public health and well-being.	None	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Moderate	Short-term	Temporary	Low (adverse)	Medium (adverse)	A fishery and informal angling is present on the impacted reach that would be subject to major flow reductions. However, these impacts will be minor against a baseline of drought conditions.	Minor adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Minor beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	No impacts on material assets are anticipated. The option involves modifications to compensation flow only and no changes to energy use, generated waste or sustainable designs are envisaged. The option will make use of existing infrastructure.	None	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote the sustainable management of natural resources have been identified for this option.	None	None
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	Impacts towards reaches of two watercourses were considered in the assessment, including the River Don and Scout Dyke. One WwTW presents a water quality pressure in the impacted reaches. The risk of water quality deterioration below what supports 'good' WFD status for fish and invertebrates is moderate for total ammonia, dissolved oxygen and phosphate. Overall there is a moderate risk to water quality as a result of the drought option.	Moderate adverse	None
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Small	Moderate	Short-term	Temporary	High (adverse)	Medium (adverse)	The drought option would lead to a major reduction in low flows over 1.8 km of Scout Dyke and a major reduction over 38.6 km of the River Don. Overall moderate to minor adverse impacts are anticipated towards river habitats associated with the drought option	Major adverse	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity. The drought option will be accompanied by water conservation campaigns to promote efficient use of water to protect the environment and safeguard supplies. Water availability is at least 70% in the zone of influence of the drought option.	None	Minor beneficial
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote long-term improvement in water efficiency have been identified for this option.	None	None
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	N/A	N/A	N/A	N/A	N/A	N/A	There are no land use changes associated with reduced compensation flow. It is anticipated that there will be no impacts on geologically sensitive sites.	None	None
Air and Climate	6.1 To maintain and improve air quality.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option involves a reduction in compensation flow with no change in existing abstraction volumes and would therefore not result in any increases in emissions to atmosphere.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option would not be associated with an increase in energy consumption, therefore, no changes to greenhouse gas emissions are envisaged.	None	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	Drought options are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought conditions which may become more prevalent due to climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	N/A	N/A	N/A	N/A	N/A	N/A	There are numerous Scheduled Ancient Monuments in proximity to the impacted reaches of the drought option. However, they are not water dependent, as such, they would not be impacted.	None	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	N/A	N/A	N/A	N/A	N/A	N/A	There are no designated landscapes in proximity to the impacted reaches of the drought option.	None	None

Drought Plan Option Name: South Area Reservoir 2

Drought Plan Option Description: Reduced flow release from South Area Reservoir 2 from 9.09-11.82 Ml/d to 3.00 Ml/d.

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Medium	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	The reduced flows will result in a number of impacts, including: the stranding of individuals or groups; deterioration or loss of habitats; fragmentation of habitats; increased mortality; and changes in morphology or behaviour. The drought option is assessed as having an impact on the following NERC and notable species: Minor impact for *Oreodytes davisii.* Moderate impact for white-clawed crayfish, water vole, barbel, bullhead and river lamprey. Major impact for brook lamprey, brown trout, European eel and grayling. The risk of deterioration to WFD status (fish) is major and moderate to WFD status (invertebrates). Impacts on Upper River Don: Deepcar to Hillsborough LWS are assessed as moderate.	Moderate adverse	None
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	N/A	N/A	N/A	N/A	N/A	N/A	Invasive species utilise flow of the watercourse for dispersal. The implementation of the drought option will lead to a reduction in flow and is therefore not anticipated to increase the spread of aquatic invasive non-native species.	None	None
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Medium	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will provide 6.09 Ml/d helping to maintain essential public water supplies during drought conditions and therefore help maintain public health and well-being.	None	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Medium	Moderate	Short-term	Temporary	Low (adverse)	Low (adverse)	There is informal angling present on the River Don which would be subject to moderate adverse effects. Canoeing takes place on the reaches, however, drought conditions would not be conducive to canoeing.	Negligible adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Medium	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	Implementation of the drought option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity with no permanent adverse effects on the environment.	None	Minor beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Medium	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option involves a reduction in compensation release only and no changes to energy use, generated waste or sustainable designs are envisaged. The option will make use of existing infrastructure.	None	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote the sustainable management of natural resources have been identified for this option.	None	None
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Medium	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	Impacts towards reaches of the River Don were considered in the assessment. Four WwTWs present water quality pressures in the impacted reaches. The risk of water quality deterioration is minor for dissolved oxygen and moderate for total ammonia and phosphate concentrations.	Moderate adverse	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Medium	Moderate	Short-term	Temporary	High (adverse)	Medium (adverse)	The drought option would lead to a major reduction in flows over 38.6km of the River Don. However, impacts on habitats and navigation would be short-term and restricted to the low flow regimes of the water courses. Overall minor to moderate adverse impacts are anticipated towards river habitats associated with the drought option.	Major adverse	None
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Medium	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity. Drought option will be accompanied by water conservation campaigns to promote efficient use of water to protect the environment and safeguard supplies.	None	Minor beneficial
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote long-term improvement in water efficiency have been identified for this option.	None	None
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	N/A	N/A	N/A	N/A	N/A	N/A	There are no land use changes associated with reduced compensation flow. It is anticipated that there will be no impacts on geologically sensitive sites.	None	None
Air and Climate	6.1 To maintain and improve air quality.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option involves a reduction in compensation flow with no change in existing abstraction volumes and would therefore not result in any increases in emissions to atmosphere.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option would not be associated with an increase in energy consumption, therefore, no changes to greenhouse gas emissions are envisaged.	None	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Small	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	Drought options are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought conditions which may become more prevalent due to climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	N/A	N/A	N/A	N/A	N/A	N/A	There are no known water-dependent cultural heritage or archaeology sites in proximity to the impacted reaches of the drought option.	None	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	Medium	Moderate	Short-term	Temporary	Low (adverse)	Medium (adverse)	The Trans Pennine Trail and Sheffield County Walk run in close proximity to the River Don which forms part of their landscape setting. The moderate reduction in flows would have a small visual impact on the setting of the trails.	Minor adverse	None

Drought Plan Option Name: South Area Reservoir 3

Drought Plan Option Description: Reduced compensation flow release from South Area Reservoir 3 from 16.00-21.70 Ml/d to 5.28 Ml/d.

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Medium	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	The reduced flows will result in a number of impacts, including: the stranding of individuals or groups; deterioration or loss of habitats; fragmentation of habitats; increased mortality; and changes in morphology or behaviour. The drought option is assessed as having an impact on the following NERC and notable species: Major for brook lamprey, brown trout, European eel. Moderate impact for white-clawed crayfish, water vole, barbel, bullhead, grayling and river lamprey. There is a major risk of deterioration of WFD status (fish) and a moderate risk to WFD status (invertebrates).	Moderate adverse	None
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	N/A	N/A	N/A	N/A	N/A	N/A	Invasive species utilise flow of the watercourse for dispersal. The implementation of the drought option will lead to a reduction in flow and is therefore not anticipated to increase the spread of aquatic invasive non-native species.	None	None
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Small	High	Short-term	Temporary	Medium (beneficial)	Medium (beneficial)	The drought option will deliver up to 10.72 Ml/d helping to maintain essential public water supplies during drought conditions, and therefore help maintain public health and well-being.	None	Moderate beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Medium	Moderate	Short-term	Temporary	Low (adverse)	Medium (adverse)	Canoeing and informal angling is present on the impacted reach that would be subject to major/moderate flow reductions. However, these impacts will be minor against a baseline of drought conditions.	Minor adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Small	High	Short-term	Temporary	Medium (beneficial)	Medium (beneficial)	The option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Moderate beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	No impacts on material assets are anticipated. The option involves modifications to compensation flow only and no changes to energy use, generated waste or sustainable designs are envisaged. The option will make use of existing infrastructure.	None	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote the sustainable management of natural resources have been identified for this option.	None	None
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Medium	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	Impacts towards reaches of the River Don and Little Don were considered in the assessment. Three WwTWs present water quality pressures in the impacted reaches. The risk of water quality deterioration below what supports good WFD status for fish and invertebrates is moderate for dissolved oxygen, total ammonia and phosphate.	Moderate adverse	None
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Medium	Moderate	Short-term	Temporary	High (adverse)	Medium (adverse)	The drought option would lead to a major reduction in low flows over 8.7km of the Little Don and the 34.7 km of the River Don. However, impacts on habitats and navigation would be short-term and restricted to the low flow regimes of the water courses. Overall minor to moderate adverse impacts are anticipated towards river habitats associated with the drought option.	Major adverse	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Medium	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity. The drought option will be accompanied by water conservation campaigns to promote efficient use of water to protect the environment and safeguard supplies. Water availability is at least 70% in the zone of influence of the drought option.	None	Minor beneficial
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote long-term improvement in water efficiency have been identified for this option.	None	None
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	N/A	N/A	N/A	N/A	N/A	N/A	There are no land use changes associated with reduced compensation flow. It is anticipated that there will be no impacts on geologically sensitive sites.	None	None
Air and Climate	6.1 To maintain and improve air quality.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option involves a reduction in compensation flow with no change in existing abstraction volumes and would therefore not result in any increases in emissions to atmosphere.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option would not be associated with an increase in energy consumption, therefore, no changes to greenhouse gas emissions are envisaged.	None	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	Drought options are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought conditions which may become more prevalent due to climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	N/A	N/A	N/A	N/A	N/A	N/A	There are no designated heritage assets in proximity to the impacted reaches of the drought option.	None	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	Medium	Moderate	Short-term	Temporary	Low (adverse)	Low (adverse)	The Trans Pennine trail is in close proximity to the impacted reach that will be subject to major flow reductions. However, the visual impact will be negligible in the context of existing drought conditions.	Negligible adverse	None

Drought Plan Option Name: South Area Reservoir 4

Drought Plan Option Description: Reduced compensation flow release from South Area Reservoir 4 from 9.10-12.00 Ml/d to 3.00 Ml/d.

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Medium	Low	Short-term	Temporary	Medium (adverse)	Medium (adverse)	The reduced flow levels would potentially reduce habitat availability and impact the following NERC and Notable species: Major impact for brook lamprey, brown trout and European eel. Moderate impact for white-clawed crayfish, water vole, barbel, bullhead, grayling and river lamprey . Minor impact for *Riolus subviolaceus* . The risk of deterioration to WFD status (fish) is major and moderate to WFD status (macroinvertebrates).	Moderate adverse	None
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	N/A	N/A	N/A	N/A	N/A	N/A	Invasive species utilise flow of the watercourse for dispersal. The implementation of the drought option will lead to a reduction in flow and is therefore not anticipated to increase the spread of aquatic invasive non-native species.	None	None
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought permit will provide up to 6.10 Ml/d helping to maintain essential public water supplies during drought conditions and therefore help maintain public health and well-being.	None	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Medium	High	Short-term	Temporary	Low (adverse)	Low (adverse)	Angling could potentially be adversely affected due to impacts on fish population/ distribution, however, the impacts would be short-term and temporary.	Negligible adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Small	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	Implementation of the drought permit will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity with no permanent adverse effects on the environment.	None	Minor beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Small	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option involves a reduction in compensation release only and no changes to energy use, generated waste or sustainable designs are envisaged. The option will make use of existing infrastructure.	None	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote the sustainable management of natural resources have been identified for this option.	None	None
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Medium	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	Impacts towards reaches of the River Don and Ewden Beck were considered in the assessment. Two WwTWs present water quality pressures in the impacted reaches. The risk of water quality deterioration is moderate for total ammonia and phosphate concentrations and minor for dissolved oxygen concentrations.	Moderate adverse	None
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Medium	Moderate	Short-term	Temporary	High (adverse)	Medium (adverse)	The drought option would lead to a major reduction in low flows over 1.7 km of Ewden Beck and major reduction over 23.3 km of the River Don with an associated reduction in wetted width and depth. However, impacts on habitats and navigation would be short-term and restricted to the low flow regimes of the water courses. Overall minor to major adverse impacts are anticipated towards river habitats associated with the drought option.	Moderate adverse	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Medium	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought permit will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity with no permanent adverse effects on the environment. The drought permit will be accompanied by water conservation campaigns to promote efficient use of water to protect the environment and safeguard supplies.	None	Minor beneficial
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote long-term improvement in water efficiency have been identified for this option.	None	None
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	N/A	N/A	N/A	N/A	N/A	N/A	There are no land use changes associated with reduced compensation flow. It is anticipated that there will be no impacts on geologically sensitive sites.	None	None
Air and Climate	6.1 To maintain and improve air quality.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option involves a reduction in compensation flow with no change in existing abstraction volumes and would therefore not result in any increases in emissions to atmosphere.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option would not be associated with an increase in energy consumption, therefore, no changes to greenhouse gas emissions are envisaged.	None	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	Drought options are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought conditions which may become more prevalent due to climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	N/A	N/A	N/A	N/A	N/A	N/A	No known water-dependent cultural heritage or archaeology sites are located within or adjacent to the impacted reaches.	None	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	Medium	Moderate	Short-term	Temporary	Low (adverse)	Medium (adverse)	The Trans Pennine Trail and Sheffield County Walk run in close proximity to the River Don which forms part of their landscape setting. The moderate reduction in flows would have a small visual impact on the setting of the trails.	Minor adverse	None

Drought Plan Option Name: South Area Reservoir 5

Drought Plan Option Description: Reduced compensation flow release from South Area Reservoir 5 from 18.00 Ml/d to 5.94 Ml/d.

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	Reduced flows in the reaches would result in increased mortality and risk of stranding of NERC species. There are two LWS moderate impacts predicted, Acorn Hill and Little Matlock Wood LWS and Malin Bridge to River Don LWS. The drought option is assessed as having an impact on the following NERC and notable species: Major adverse impact on white-clawed crayfish, brook lamprey, brown trout and European eel. Moderate adverse impact on water vole, barbel, bullhead, grayling and river lamprey. There is a major risk to the deterioration of WFD status (fish) and a moderate risk to the deterioration of WFD status (invertebrates).	Moderate adverse	None
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	N/A	N/A	N/A	N/A	N/A	N/A	Invasive species utilise flow of the watercourse for dispersal. The implementation of the drought option will lead to a reduction in flow and is therefore not anticipated to increase the spread of aquatic invasive non-native species.	None	None
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Small	High	Short-term	Temporary	Medium (beneficial)	Medium (beneficial)	The drought option will provide 12.06 Ml/d helping to maintain essential public water supplies during drought conditions and therefore help maintain public health and well-being.	None	Moderate beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Moderate	Short-term	Temporary	Low (adverse)	Low (adverse)	Angling could be adversely affected due to impacts on fish population/distribution in downstream reaches. However, flows during a drought will already be low, such that further reduction in flows would not be likely to further reduce the angling quality of the reach.	Negligible adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Small	High	Short-term	Temporary	Medium (beneficial)	Medium (beneficial)	Implementation of the drought option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Moderate beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Small	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option involves a reduction in compensation release only; and no changes to energy use, generated waste or sustainable designs are envisaged. The option will make use of existing infrastructure.	None	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote the sustainable management of natural resources have been identified for this option.	None	None
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Medium	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	Impacts towards reaches of two watercourses were considered in the assessment. One WwTW presents a water quality risk in the impacted reaches. There is a moderate risk that the reduction in low flows would lead to a decreased downstream dissolved oxygen saturation, below values which support 'good' or 'high' status for fish and invertebrates. There is also a moderate risk that ammonia concentrations would increase above values which support 'good' or 'high' status for fish and invertebrates. Overall there is a minor to moderate risk to water quality as a result of the drought option.	Moderate adverse	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Medium	Moderate	Short-term	Temporary	High (adverse)	Medium (adverse)	There would be a major adverse impact on flow levels in the impacted reaches with an associated reduction in wetted width and depth. However, these impacts would be localised to places where the bank is shallow. The drought option would lead to a major reduction in low flows (up to 67%) associated reduction in wetted width and depth over a 21.2km of the impacted reaches. Overall major to minor adverse impacts are anticipated towards river habitats associated with the drought option.	Major adverse	None
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Medium	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity with no permanent adverse effects on the environment. Drought option will be accompanied by water conservation campaigns to promote efficient use of water to protect the environment and safeguard supplies.	None	Minor beneficial
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote long-term improvement in water efficiency have been identified for this option.	None	None
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	Medium	Moderate	Short-term	Temporary	Medium (adverse)	Low (adverse)	There would be no land use changes associated with this drought option. The impact on fluvial geomorphology due to lower flows is assessed as minor adverse, due to potential for increased erosion of river banks and sediment deposition at selected sites.	Minor adverse	None
Air and Climate	6.1 To maintain and improve air quality.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option involves a reduction in compensation flow with no change in existing abstraction volumes and would therefore not result in any increases in emissions to atmosphere.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option would not be associated with an increase in energy consumption, therefore, no changes to greenhouse gas emissions are envisaged.	None	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Medium	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	Drought options are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought which may become more prevalent due to climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	N/A	N/A	N/A	N/A	N/A	N/A	There are no known water-dependent cultural heritage or archaeology sites in proximity to the impacted reaches.	None	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	Medium	Moderate	Short-term	Temporary	Low (adverse)	Low (adverse)	There are no designated landscapes in the immediate vicinity and the visual impact on the surrounding countryside would be short-term and temporary.	Negligible adverse	None

Drought Plan Option Name: South Area Reservoir 6

Drought Plan Option Description: Reduced compensation flow release from South Area Reservoir 6 from 10.30 Ml/d to 3.40 Ml/d.

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Small	Low	Short-term	Temporary	Medium (adverse)	Medium (adverse)	The reduced flows would result in a number of impacts, including: the stranding of individuals or groups; deterioration or loss of habitats; fragmentation of habitats; increased mortality; and changes in morphology or behaviour. Impacts on Malin Bridge to River Don LWS are assessed as moderate. The drought option is assessed as having an impact on the following NERC and notable species: Major impact for white-clawed crayfish, brook lamprey, brown trout and European eel. Moderate impact for water vole, barbel, bullhead, grayling and river lamprey. Minor impact for *Sisyra terminalis* . There is a moderate risk of deterioration of WFD status (macroinvertebrates) and a major risk to WFD status (fish).	Moderate adverse	None
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	N/A	N/A	N/A	N/A	N/A	N/A	Invasive species utilise flow of the watercourse for dispersal. The implementation of the drought option will lead to a reduction in flow and is therefore not anticipated to increase the spread of aquatic invasive non-native species.	None	None
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will deliver up to 6.90 Ml/d helping to maintain essential public water supplies during drought conditions, and therefore help maintain public health and well-being.	None	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Moderate	Short-term	Temporary	Low (adverse)	Low (adverse)	There is informal angling present on the impacted reaches. However, flows during a drought will be low such that further reduction in flows would not be likely to further reduce the angling quality of the reach. Canoeing takes place on the reaches, however, existing drought conditions would not be conducive to canoeing so impacts would be negligible.	Negligible adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Minor beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Small	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	No impacts on material assets are anticipated. The option involves modifications to compensation flow only and no changes to energy use, generated waste or sustainable designs are envisaged. The option will make use of existing infrastructure.	None	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote the sustainable management of natural resources have been identified for this option.	None	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	Impacts towards the following reaches are included in the assessment; Rivelin, Loxley and Don. One WwTW presents a water quality risk in the impacted reaches. The risk of water quality deterioration below what supports good WFD status for fish and invertebrates is moderate for dissolved oxygen, ammonia and phosphate.	Moderate adverse	None
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Small	Moderate	Short-term	Temporary	High (adverse)	Medium (adverse)	The drought option would lead to a major reduction in low flows (up to 67%) associated reduction in wetted width and depth over 23.2km of the impacted reaches. However, impacts on habitats and navigation would be short-term and restricted to the low flow regimes of the water courses. Overall major to minor adverse impacts are anticipated towards river habitats associated with the drought option.	Major adverse	None
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity. The drought option will be accompanied by water conservation campaigns to promote efficient use of water to protect the environment and safeguard supplies. Water availability is at least 70% in the zone of influence of the drought option.	None	Minor beneficial
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote long-term improvement in water efficiency have been identified for this option.	None	None
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	N/A	N/A	N/A	N/A	N/A	N/A	There are no land use changes associated with reduced compensation flow. It is anticipated that there will be no impacts on geologically sensitive sites.	None	None
Air and Climate	6.1 To maintain and improve air quality.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option involves a reduction in compensation flow with no change in existing abstraction volumes and would therefore not result in any increases in emissions to atmosphere.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option would not be associated with an increase in energy consumption, therefore, no changes to greenhouse gas emissions are envisaged.	None	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	Drought options are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought conditions which may become more prevalent due to climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	N/A	N/A	N/A	N/A	N/A	N/A	A Scheduled Ancient Monument is in proximity to the impacted reaches. However, the asset is not water dependent so would not be impacted by the drought option.	None	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	N/A	N/A	N/A	N/A	N/A	N/A	There are no landscape designations in proximity to the impacted reaches of the drought option.	None	None

Drought Plan Option Name: South West Area Reservoir 1

Drought Plan Option Description: Reduced compensation flow release from South West Area Reservoir 1 from 2.70 Ml/d to 0.89 Ml/d.

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	The reduced flows would result in a number of impacts on fish species including: the stranding of individuals or groups; deterioration or loss of habitats; fragmentation of habitats; increased mortality; and changes in morphology or behaviour. As a result, NERC and Notable species would be subject to the following adverse impacts: Major/Moderate impact for brown trout Moderate impact for white-clawed crayfish, grayling, bullhead and water vole. Minor impact for barbel. There is a moderate risk of deterioration of WFD status (fish and invertebrates).	Moderate adverse	None
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	N/A	N/A	N/A	N/A	N/A	N/A	Invasive species utilise flow of the watercourse for dispersal. The implementation of the drought option would lead to a reduction in flow and is therefore not anticipated to increase the spread of aquatic invasive non-native species.	None	None
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option would deliver up to 1.81 Ml/d helping to maintain essential public water supplies during drought conditions, and therefore help maintain public health and well-being.	None	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	N/A	N/A	N/A	N/A	N/A	N/A	There are no opportunities or threats to recreational activities for this drought option.	None	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Minor beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	No impacts on material assets are anticipated. The option involves modifications to compensation flow only and no changes to energy use, generated waste or sustainable designs are envisaged. The option will make use of existing infrastructure.	None	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote the sustainable management of natural resources have been identified for this option.	None	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	Impacts towards reaches of the Graining Water, Hebden Water and Calder were considered in the assessment. Risk of short term acute, infrequent, temporary water quality pressures (acute toxicity of ammonia, suffocation from oxygen sags) locally downstream of two listed CSOs during rainfall events. Due to the presence of consented discharges the risk of water quality deterioration below what supports good WFD status for fish and invertebrates is moderate for dissolved oxygen and ammonia. Overall there is a minor to moderate risk to water quality as a result of the drought option.	Moderate adverse	None
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	The drought option would lead to a major reduction in low flows (up to 67%), with an associated reduction in wetted width and depth over a 23.8 km stretch of the impacted reaches. Moderate to major hydrological impacts are anticipated towards the impacted reaches, including two flow depleted reaches. Overall minor to moderate impacts are anticipated towards river habitats associated with the drought option.	Moderate adverse	None
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought permit will be accompanied by water conservation campaigns to promote efficient use of water to protect the environment and safeguard supplies. Water availability is at least 70% in the zone of influence of the drought option.	None	Minor beneficial
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote long-term improvement in water efficiency have been identified for this option.	None	None
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	Small	Moderate	Short-term	Temporary	Low (adverse)	Low (adverse)	There are no land use changes associated with reduced compensation flow. It is anticipated that there will be no impacts on geologically sensitive sites.	Negligible adverse	None
Air and Climate	6.1 To maintain and improve air quality.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option involves a reduction in compensation flow with no change in existing abstraction volumes and would therefore not result in any increases in emissions to atmosphere.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option would not be associated with an increase in energy consumption, therefore, no changes to greenhouse gas emissions are envisaged.	None	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	Drought options are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought conditions which may become more prevalent due to climate change.	None	Minor beneficial

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	N/A	N/A	N/A	N/A	N/A	N/A	Nearby ancient monuments are not water-dependent and would not be impacted by the drought option.	None	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	Small	Moderate	Short-term	Temporary	Low (adverse)	Low (adverse)	A significant reduction in the water level of the impacted reaches would have a visual impact on the landscape setting of the Pennine Bridleway National Trail. However, the reduced water levels of the reaches would be short-term and temporary.	Negligible adverse	None

Drought Plan Option Name: South West Area Reservoir 2

Drought Plan Option Description: Reduced compensation flow release from South West Area Reservoir 2 from 3.78-7.56 Ml/d to 1.25-2.59 Ml/d.

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	The reduced flows would result in a number of impacts on fish species including: the stranding of individuals or groups; deterioration or loss of habitats; fragmentation of habitats; increased mortality; and changes in morphology or behaviour. As a result, NERC and Notable species would be subject to the following adverse impacts: Major/moderate impact for brown trout. Moderate impact for water vole, grayling and bullhead. Minor impact for barbel. There is a minor/moderate risk of deterioration of WFD status (fish and invertebrates).	Moderate adverse	None
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	N/A	N/A	N/A	N/A	N/A	N/A	Invasive species utilise flow of the watercourse for dispersal. The implementation of the drought option would lead to a reduction in flow and is therefore not anticipated to increase the spread of aquatic invasive non-native species.	None	None
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Small	High	Short-term	Temporary	Medium (beneficial)	Medium (beneficial)	The drought option would deliver up to 5.07 Ml/d helping to maintain essential public water supplies during drought conditions, and therefore help maintain public health and well-being.	None	Moderate beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	There is an angling club and casual angling present on the impacted reaches. The impact on the club and some of the casual angling activities would range from minor to moderate. There are a number of other recreational activities in proximity to the impacted reaches, however, they would not be affected over the duration of the implementation of the drought option.	Moderate adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Small	High	Short-term	Temporary	Medium (beneficial)	Medium (beneficial)	The option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Moderate beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	No impacts on material assets are anticipated. The option involves modifications to compensation flow only and no changes to energy use, generated waste or sustainable designs are envisaged. The option will make use of existing infrastructure.	None	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote the sustainable management of natural resources have been identified for this option.	None	None
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	Impacts towards reaches of the Hebden Water and River Calder were considered in the assessment. Risk of short term acute, infrequent, temporary water quality pressures (acute toxicity of ammonia, suffocation from oxygen sags) locally downstream of two listed CSOs during rainfall events. Due to the presence of consented discharges, the risk of water quality deteriorating from implementation of the drought option below what supports good WFD status for fish and invertebrates, is moderate for dissolved oxygen, total ammonia and phosphate. Overall there is a minor to moderate risk to water quality as a result of the drought option.	Moderate adverse	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Small	Moderate	Short-term	Temporary	Major (adverse)	Medium (adverse)	The drought option would lead to a major reduction in low flows (up to 67%), with an associated reduction in wetted width and depth over a 23.8 km stretch of the impacted reaches. Moderate to major hydrological impacts are anticipated towards the impacted reaches. Overall minor to moderate impacts are anticipated towards river habitats associated with the drought option.	Major adverse	None
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will be accompanied by water conservation campaigns to promote efficient use of water to protect the environment and safeguard supplies. Water availability is at less than 30% in the zone of influence of the drought option.	None	Minor beneficial
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote long-term improvement in water efficiency have been identified for this option.	None	None
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	N/A	N/A	N/A	N/A	N/A	N/A	There are no land use changes associated with reduced compensation flow. It is anticipated that there will be no impacts on geologically sensitive sites.	None	None
Air and Climate	6.1 To maintain and improve air quality.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option involves a reduction in compensation flow with no change in existing abstraction volumes and would therefore not result in any increases in emissions to atmosphere.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option would not be associated with an increase in energy consumption, therefore, no changes to greenhouse gas emissions are envisaged.	None	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	Drought options are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought conditions which may become more prevalent due to climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	N/A	N/A	N/A	N/A	N/A	N/A	No Scheduled Ancient Monuments would be impacted by the flow reductions over the duration of the implementation of the drought option.	None	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	Small	Moderate	Short-term	Temporary	Low (adverse)	Low (adverse)	A significant reduction in the water level of the impacted reaches would have a visual impact on the landscape setting of the Calder/Aire Link National Trail. However, the reduced water levels of the reaches would be short-term and temporary.	Negligible adverse	None

Drought Plan Option Name: South West Area Reservoir 3

Drought Plan Option Description: Reduced compensation flow release from South West Area Reservoir 3 from 3.24-6.50 Ml/d to 1.07-2.15 Ml/d.

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	The reduced flows would result in a number of impacts on fish species including: the stranding of individuals or groups; deterioration or loss of habitats; fragmentation of habitats; increased mortality; and changes in morphology or behaviour. As a result, NERC and Notable species would be subject to the following adverse impacts: Moderate impact for white-clawed crayfish, water vole and brown trout. Minor impact for barbel, grayling and *Helophorus strigifrons.* There is a minor/moderate risk of deterioration of WFD status (fish and invertebrates).	Moderate adverse	None
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	N/A	N/A	N/A	N/A	N/A	N/A	Invasive species utilise flow of the watercourse for dispersal. The implementation of the drought option would lead to a reduction in flow and is therefore not anticipated to increase the spread of aquatic invasive non-native species.	None	None
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Small	High	Short-term	Temporary	Medium (beneficial)	Medium (beneficial)	The drought option would deliver up to 2.17-4.36 Ml/d helping to maintain essential public water supplies during drought conditions, and therefore help maintain public health and well-being.	None	Moderate beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Moderate	Short-term	Temporary	Moderate (adverse)	Moderate (adverse)	There is an angling club and casual angling present on the impacted reaches. The impact on the club and some of the casual angling activities would range from minor to moderate. There are a number of other recreational activities in proximity to the impacted reaches, however, they would not be affected over the duration of the implementation of the drought option.	Moderate adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Small	High	Short-term	Temporary	Medium (beneficial)	Medium (beneficial)	The option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Moderate beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	No impacts on material assets are anticipated. The option involves modifications to compensation flow only and no changes to energy use, generated waste or sustainable designs are envisaged. The option will make use of existing infrastructure.	None	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote the sustainable management of natural resources have been identified for this option.	None	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	Impacts towards reaches of the Graining Water, Hebden Water and Calder were considered in the assessment. Risk of short term acute, infrequent, temporary water quality pressures (acute toxicity of ammonia, suffocation from oxygen sags) locally downstream of two listed CSO during rainfall events. Due to the presence of consented discharges, the risk of water quality deteriorating from implementation of the drought option below what supports good WFD status for fish and invertebrates, is moderate for dissolved oxygen and total ammonia. Overall there is a minor to moderate risk to water quality as a result of the drought option.	Moderate adverse	None
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Small	Moderate	Short-term	Temporary	Major (adverse)	Medium (adverse)	The drought option would lead to a major reduction in low flows (up to 67%), with an associated reduction in wetted width and depth over a 24 km stretch of the impacted reaches. Moderate to major hydrological impacts are anticipated towards the impacted reaches. Overall minor to moderate impacts are anticipated towards river habitats associated with the drought option.	Major adverse	None
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will be accompanied by water conservation campaigns to promote efficient use of water to protect the environment and safeguard supplies. Water availability is at least 70% in the zone of influence of the drought option.	None	Minor beneficial
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote long-term improvement in water efficiency have been identified for this option.	None	None
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	N/A	N/A	N/A	N/A	N/A	N/A	There are no land use changes associated with reduced compensation flow. It is anticipated that there will be no impacts on geologically sensitive sites.	None	None
Air and Climate	6.1 To maintain and improve air quality.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option involves a reduction in compensation flow with no change in existing abstraction volumes and would therefore not result in any increases in emissions to atmosphere.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option would not be associated with an increase in energy consumption, therefore, no changes to greenhouse gas emissions are envisaged.	None	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	Drought options are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought conditions which may become more prevalent due to climate change.	None	Minor beneficial

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	N/A	N/A	N/A	N/A	N/A	N/A	No Scheduled Ancient Monuments would be impacted by the flow reductions over the duration of the implementation of the drought option.	None	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	Small	Moderate	Short-term	Temporary	Low (adverse)	Low (adverse)	A significant reduction in the water level of the impacted reaches would have a negligible visual impact on the landscape setting of the Calder/Aire Link National Trail. However, the reduced water levels of the reaches would be short-term and temporary.	Negligible adverse	None

Drought Plan Option Name: South West Area Reservoir 4

Drought Plan Option Description: Reduced compensation flow release from South West Area Reservoir 4 from 3.42 Ml/d to 1.13 Ml/d.

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	The reduced flows would result in a number of impacts on fish species including: the stranding of individuals or groups; deterioration or loss of habitats; fragmentation of habitats; increased mortality; and changes in morphology or behaviour. As a result, NERC and Notable species would be subject to the following adverse impacts: Moderate impact for brown trout and water vole. Minor impact for bullhead, barbel and grayling. There is a moderate risk of deterioration of WFD status (invertebrates and fish).	Moderate adverse	None
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	N/A	N/A	N/A	N/A	N/A	N/A	Invasive species utilise flow of the watercourse for dispersal. The implementation of the drought option would lead to a reduction in flow and is therefore not anticipated to increase the spread of aquatic invasive non-native species.	None	None
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option would deliver up to 2.28 Ml/d helping to maintain essential public water supplies during drought conditions, and therefore help maintain public health and well-being.	None	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Low (adverse)	There is casual angling present on Hebble Brook. The reduced flows would have a minor adverse effect on the angling quality of the reach.	Minor adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Minor beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	No impacts on material assets are anticipated. The option involves modifications to compensation flow only and no changes to energy use, generated waste or sustainable designs are envisaged. The option will make use of existing infrastructure.	None	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote the sustainable management of natural resources have been identified for this option.	None	None
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	Impacts towards reaches of the Calder and Hebble Brook watercourses were considered in the assessment. Risk of short term acute, infrequent, temporary water quality pressures (acute toxicity of ammonia, suffocation from oxygen sags) locally downstream of one listed CSO during rainfall events. Due to the presence of consented discharges the risk of water quality deterioration below what supports good WFD status for fish and invertebrates is moderate for dissolved oxygen and ammonia. Overall there is a moderate risk to water quality as a result of the drought option.	Moderate adverse	None
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Small	Moderate	Short-term	Temporary	Major (adverse)	Medium (adverse)	The drought option would lead to a major reduction in low flows (up to 67%), with an associated reduction in wetted width and depth over a 24.2 km stretch of the impacted reaches. Major hydrological impacts are anticipated towards the impacted reaches. Overall minor to moderate impacts are anticipated towards river habitats associated with the drought option.	Major adverse	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will be accompanied by water conservation campaigns to promote efficient use of water to protect the environment and safeguard supplies. Water availability is at least 70% in the zone of influence of the drought option.	None	Minor beneficial
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote long-term improvement in water efficiency have been identified for this option.	None	None
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	N/A	N/A	N/A	N/A	N/A	N/A	There are no land use changes associated with reduced compensation flow. It is anticipated that there will be no impacts on geologically sensitive sites.	None	None
Air and Climate	6.1 To maintain and improve air quality.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option involves a reduction in compensation flow with no change in existing abstraction volumes and would therefore not result in any increases in emissions to atmosphere.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option would not be associated with an increase in energy consumption, therefore, no changes to greenhouse gas emissions are envisaged.	None	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	Drought options are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought conditions which may become more prevalent due to climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	N/A	N/A	N/A	N/A	N/A	N/A	The nearby Scheduled Ancient Monuments are not water-dependent and would not be impacted by the drought option.	None	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	Small	Moderate	Short-term	Temporary	Low (adverse)	Medium (adverse)	A significant reduction in the water level of the impacted reaches would have a visual impact on the landscape setting of the Calderdale Way National Trail. However, the reduced water levels of the reaches would be short-term and temporary.	Minor adverse	None

Drought Plan Option Name: South West Area Reservoir 5

Drought Plan Option Description: Reduced compensation flow release from South West Area Reservoir 5 from 1.33 Ml/d to 0.44 Ml/d.
[Environment Agency Drought Order]

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	The reduced flows would result in a number of impacts on fish species including: the stranding of individuals or groups; deterioration or loss of habitats; fragmentation of habitats; increased mortality; and changes in morphology or behaviour. As a result, NERC and Notable species would be subject to the following adverse impacts: Moderate impact for white-clawed crayfish, water vole and brown trout. Minor impact for bullhead. There is a moderate risk of deterioration of WFD status (invertebrates and fish).	Moderate adverse	None
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	N/A	N/A	N/A	N/A	N/A	N/A	Invasive species utilise flow of the watercourse for dispersal. The implementation of the drought option would lead to a reduction in flow and is therefore not anticipated to increase the spread of aquatic invasive non-native species.	None	None
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option would deliver up to 0.89 Ml/d helping to maintain essential public water supplies during drought conditions, and therefore help maintain public health and well-being.	None	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Moderate	Short-term	Temporary	Low (adverse)	Medium (adverse)	There is casual angling present on Walsden Water. The reduced flows would have a minor adverse effect on the angling quality of the reach.	Minor adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Minor beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	No impacts on material assets are anticipated. The option involves modifications to compensation flow only and no changes to energy use, generated waste or sustainable designs are envisaged. The option will make use of existing infrastructure.	None	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote the sustainable management of natural resources have been identified for this option.	None	None
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Small	Moderate	Short-term	Temporary	Low (adverse)	Medium (adverse)	Impacts towards reaches of the Walsden Water and River Calder were considered in the assessment. Risk of short term acute, infrequent, temporary water quality pressures (acute toxicity of ammonia, suffocation from oxygen sags) locally downstream of listed CSOs during rainfall events. Due to existing water quality pressures, water quality throughout the study area would be at a moderate risk of deteriorating for total ammonia and oxygen from the implementation of the drought options. Overall there is a minor to moderate risk to water quality as a result of the drought option.	Minor adverse	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Small	Moderate	Short-term	Temporary	Major (adverse)	Medium (adverse)	The drought option would lead to a major reduction in low flows (up to 67%), with an associated reduction in wetted width and depth over a 10.8km stretch of the impacted reaches. There is additionally one moderately impacted flow depleted reach for ~200m of Calder 1 between the offtake, currently utilised for non-evaporative cooling. Moderate to major hydrological impacts are anticipated towards the impacted reaches. Overall minor to major impacts are anticipated towards river habitats associated with the drought option.	Major adverse	None
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will be accompanied by water conservation campaigns to promote efficient use of water to protect the environment and safeguard supplies. Water availability is at least 70% in the zone of influence of the drought option.	None	Minor beneficial
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote long-term improvement in water efficiency have been identified for this option.	None	None
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	N/A	N/A	N/A	N/A	N/A	N/A	There are no land use changes associated with reduced compensation flow. It is anticipated that there will be no impacts on geologically sensitive sites.	None	None
Air and Climate	6.1 To maintain and improve air quality.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option involves a reduction in compensation flow with no change in existing abstraction volumes and would therefore not result in any increases in emissions to atmosphere.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option would not be associated with an increase in energy consumption, therefore, no changes to greenhouse gas emissions are envisaged.	None	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	Drought options are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought conditions which may become more prevalent due to climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	N/A	N/A	N/A	N/A	N/A	N/A	Nearby ancient monuments are not water-dependent and would not be impacted by the drought option.	None	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	Small	Moderate	Short-term	Temporary	Low (adverse)	Medium (adverse)	A significant reduction in the water level of the impacted reaches would have a visual impact on the landscape setting of the Calderdale Way National Trail. However, the reduced water levels of the reaches would be short-term and temporary so the impact would only be minor.	Minor adverse	None

Drought Plan Option Name: South West Area Reservoir 6

Drought Plan Option Description: Reduced compensation flow release from South West Area Reservoir 6 from 3.02 Ml/d to 1.00 Ml/d.

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	The reduced flows would result in a number of impacts on fish species including: the stranding of individuals or groups; deterioration or loss of habitats; fragmentation of habitats; increased mortality; and changes in morphology or behaviour. As a result, NERC and Notable species would be subject to the following adverse impacts: Major impact for brown trout. Moderate impact for water vole and white-clawed crayfish. Minor impact for bullhead and grayling. There is a moderate risk of deterioration of WFD status (fish and invertebrates).	Moderate adverse	None
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	N/A	N/A	N/A	N/A	N/A	N/A	Invasive species utilise flow of the watercourse for dispersal. The implementation of the drought option would lead to a reduction in flow and is therefore not anticipated to increase the spread of aquatic invasive non-native species.	None	None
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option would deliver up to 2.01 Ml/d helping to maintain essential public water supplies during drought conditions, and therefore help maintain public health and well-being.	None	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Low (adverse)	There is casual angling present on the impacted reaches. The reduced flows would have a minor adverse effect on the angling quality of the reach.	Minor adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Minor beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	No impacts on material assets are anticipated. The option involves modifications to compensation flow only and no changes to energy use, generated waste or sustainable designs are envisaged. The option will make use of existing infrastructure.	None	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote the sustainable management of natural resources have been identified for this option.	None	None
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Small	Low	Short-term	Temporary	Low (adverse)	Medium (adverse)	Impacts towards reaches of the Calder, Booth Dean Clough, and Luddenden Brook were considered in the assessment. The risk of water quality deterioration below what supports good WFD status for fish and invertebrates is minor for dissolved oxygen, ammonia and phosphate. Overall there is a minor to moderate risk to water quality as a result of the drought option.	Moderate adverse	None
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Small	Moderate	Short-term	Temporary	Major (adverse)	Medium (adverse)	The drought option would lead to a major reduction in low flows (up to 67%), with an associated reduction in wetted width and depth over a 13 km stretch of the impacted reaches. Major hydrological impacts are anticipated towards the impacted reaches. Overall minor to major impacts are anticipated towards river habitats associated with the drought option.	Major adverse	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will be accompanied by water conservation campaigns to promote efficient use of water to protect the environment and safeguard supplies. Water availability is at least 70% in the zone of influence of the drought option.	None	Minor beneficial
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote long-term improvement in water efficiency have been identified for this option.	None	None
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	N/A	N/A	N/A	N/A	N/A	N/A	There are no land use changes associated with reduced compensation flow. It is anticipated that there will be no impacts on geologically sensitive sites.	None	None
Air and Climate	6.1 To maintain and improve air quality.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option involves a reduction in compensation flow with no change in existing abstraction volumes and would therefore not result in any increases in emissions to atmosphere.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option would not be associated with an increase in energy consumption, therefore, no changes to greenhouse gas emissions are envisaged.	None	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	Drought options are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought conditions which may become more prevalent due to climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	N/A	N/A	N/A	N/A	N/A	N/A	There are no heritage assets in proximity to the impacted reaches of the drought option.	None	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	Small	Moderate	Short-term	Temporary	Low (adverse)	Medium (adverse)	A significant reduction in the water level of the impacted reaches would have a visual impact on the landscape setting of the Calderdale Way National Trail. However, the reduced water levels of the reaches would be short-term and temporary so the impact would only be minor.	Minor adverse	None

Drought Plan Option Name: South West Area Reservoir 7

Drought Plan Option Description: Reduced compensation flow release from South West Area Reservoir 7 from 3.20-10.60 Ml/d to 1.06-3.50 Ml/d.

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species) and consider adaptability to climate change.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	The reduced flows would result in a number of impacts on fish species including: the stranding of individuals or groups; deterioration or loss of habitats; fragmentation of habitats; increased mortality; and changes in morphology or behaviour. As a result, NERC and Notable species would be subject to the following adverse impacts: Major impact for brown trout. Moderate impact for otter, water vole, white-clawed crayfish, bullhead and grayling. There is a moderate risk of deterioration of WFD status (invertebrates and fish).	Moderate adverse	None
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	N/A	N/A	N/A	N/A	N/A	N/A	Invasive species utilise flow of the watercourse for dispersal. The implementation of the drought option would lead to a reduction in flow and is therefore not anticipated to increase the spread of aquatic invasive non-native species.	None	None
Population and human health	2.1 To protect and improve health and well-being and reduce inequalities	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option would deliver up to 7.10 Ml/d helping to maintain essential public water supplies during drought conditions, and therefore help maintain public health and well-being.	None	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Moderate	Short-term	Temporary	Low (adverse)	Medium (adverse)	There is casual angling present on the impacted reaches. The reduced flows would have a minor adverse effect on the angling quality of the reach.	Minor adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Minor beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	No impacts on material assets are anticipated. The option involves modifications to compensation flow only and no changes to energy use, generated waste or sustainable designs are envisaged. The option will make use of existing infrastructure.	None	Minor beneficial
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Small	Moderate	Short-term	Temporary	Low (adverse)	Medium (adverse)	Impacts towards reaches of the River Colne, River Calder and River Holme were considered in the assessment. Risk of short term acute, infrequent, temporary water quality pressures (acute toxicity of ammonia, suffocation from oxygen sags) locally downstream of listed CSOs during rainfall events. Therefore, the risk of water quality deterioration below what supports good WFD status for fish and invertebrates is moderate for dissolved oxygen and ammonia. Overall there is a minor to moderate risk to water quality as a result of the drought option.	Moderate adverse	None
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Small	Moderate	Short-term	Temporary	Major (adverse)	Medium (adverse)	The drought option would lead to a major reduction in low flows (up to 67%), with an associated reduction in wetted width and depth over a 22.3 km stretch of the impacted reaches. Major hydrological impacts are anticipated towards the impacted reaches and towards two flow depleted reaches. Overall, major impacts are anticipated towards river habitats associated with the drought option.	Major adverse	None
Water	4.3 To ensure appropriate and sustainable management of water supplies whilst protecting ecosystem functions that rely on water resources including contributing to the achievement of WFD objectives	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought permit will be accompanied by water conservation campaigns to promote efficient use of water to protect the environment and safeguard supplies. Water availability is less than 30% in the zone of influence of the drought option.	None	Minor beneficial
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	N/A	N/A	N/A	N/A	N/A	N/A	There are no land use changes associated with reduced compensation flow. It is anticipated that there will be no impacts on geologically sensitive sites.	None	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Air and Climate	6.1 To maintain and improve air quality.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option involves a reduction in compensation flow with no change in existing abstraction volumes and would therefore not result in any increases in emissions to atmosphere.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option would not be associated with an increase in energy consumption, therefore, no changes to greenhouse gas emissions are envisaged.	None	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	Drought options are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought conditions which may become more prevalent due to climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	N/A	N/A	N/A	N/A	N/A	N/A	There are a number of nearby heritage assets but they are not water-dependent and would not be impacted by the drought option.	None	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	N/A	N/A	N/A	N/A	N/A	N/A	There are no designated landscapes in proximity to the impacted reaches of the drought option.	None	None

Drought Plan Option Name: South West Area Reservoir 8

Drought Plan Option Description: Reduced compensation flow release from South West Area Reservoir 8 from 4.80-6.90 Ml/d to 1.58-2.28 Ml/d.

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	The reduced flows would result in a number of impacts on fish species including: the stranding of individuals or groups; deterioration or loss of habitats; fragmentation of habitats; increased mortality; and changes in morphology or behaviour. As a result, NERC and Notable species would be subject to the following adverse impacts: Major impact for brown trout. Moderate impact for otter, water vole, white-clawed crayfish, bullhead, brook lamprey, European eel, river lamprey and grayling. Minor impact for barbel. There is a moderate risk of deterioration of WFD status (invertebrates and fish).	Moderate adverse	None
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	N/A	N/A	N/A	N/A	N/A	N/A	Invasive species utilise flow of the watercourse for dispersal. The implementation of the drought option would lead to a reduction in flow and is therefore not anticipated to increase the spread of aquatic invasive non-native species.	None	None
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Small	High	Short-term	Temporary	Low (beneficial)	High (beneficial)	The drought option would deliver up to 4.62 Ml/d helping to maintain essential public water supplies during drought conditions, and therefore help maintain public health and well-being.	None	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Moderate	Short-term	Temporary	Low (adverse)	Medium (adverse)	There is casual angling present on the impacted reaches. However, flows during a drought will be low such that further reduction in flows would only lead to a minor reduction in the angling quality of the reach. The caravan site would not be impacted over the duration of the implementation of the drought option.	Minor adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Minor beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	No impacts on material assets are anticipated. The option involves modifications to compensation flow only and no changes to energy use, generated waste or sustainable designs are envisaged. The option will make use of existing infrastructure.	None	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote the sustainable management of natural resources have been identified for this option.	None	None
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	Impacts towards reaches of the River Colne and River Holme and Calder were considered in the assessment. Risk of short term acute, infrequent, temporary water quality pressures (acute toxicity of ammonia, suffocation from oxygen sags) locally downstream of two listed CSOs during rainfall events. Due to consented discharges, the risk of water quality deterioration upon the implementation of the drought option would be moderate for total ammonia, oxygen and phosphate, Overall there is a minor to moderate risk to water quality as a result of the drought option.	Moderate adverse	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Small	Moderate	Short-term	Temporary	Major (adverse)	Medium (adverse)	The drought option would lead to a major reduction in low flows (up to 67%), with an associated reduction in wetted width and depth over a 78.4 km of the impacted reaches. Major hydrological impacts are anticipated towards the impacted reaches and towards six flow depleted reaches. Overall, minor to major impacts are anticipated towards river habitats associated with the drought option.	Major adverse	None
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought permit will be accompanied by water conservation campaigns to promote efficient use of water to protect the environment and safeguard supplies. Water availability is at least 70% in the zone of influence of the drought option.	None	Minor beneficial
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote long-term improvement in water efficiency have been identified for this option.	None	None
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	N/A	N/A	N/A	N/A	N/A	N/A	There are no land use changes associated with reduced compensation flow. It is anticipated that there will be no impacts on geologically sensitive sites.	None	None
Air and Climate	6.1 To maintain and improve air quality.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option involves a reduction in compensation flow with no change in existing abstraction volumes and would therefore not result in any increases in emissions to atmosphere.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option would not be associated with an increase in energy consumption, therefore, no changes to greenhouse gas emissions are envisaged.	None	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	Drought options are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought conditions which may become more prevalent due to climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	N/A	N/A	N/A	N/A	N/A	N/A	There are no scheduled Ancient Monuments that would be impacted by the drought option.	None	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	N/A	N/A	N/A	N/A	N/A	N/A	There are no landscape designations in proximity to the impacted reaches of the drought option.	None	None

Drought Plan Option Name: South West Area Reservoir 9

Drought Plan Option Description: Reduced compensation flow release from Calder Area Reservoir 9 from 1.98-4.0 Ml/d to 0.65-1.32 Ml/d.
[Environment Agency Drought Order]

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	The reduced flows would result in a number of impacts on fish species including: the stranding of individuals or groups; deterioration or loss of habitats; fragmentation of habitats; increased mortality; and changes in morphology or behaviour. As a result, NERC and Notable species would be subject to the following adverse impacts: Moderate impact for otter, water vole, white-clawed crayfish, brown trout, bullhead and grayling. There is a moderate risk of deterioration of WFD status (invertebrates and fish).	Moderate adverse	None
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	N/A	N/A	N/A	N/A	N/A	N/A	Invasive species utilise flow of the watercourse for dispersal. The implementation of the drought option would lead to a reduction in flow and is therefore not anticipated to increase the spread of aquatic invasive non-native species.	None	None
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option would deliver up to 2.68 Ml/d helping to maintain essential public water supplies during drought conditions, and therefore help maintain public health and well-being.	None	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Moderate	Short-term	Temporary	Low (adverse)	Low (adverse)	There is casual angling present on the impacted reaches. However, flows during a drought will be low such that further reduction in flows would not be likely to further reduce the angling quality of the reach.	Negligible adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Minor beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	No impacts on material assets are anticipated. The option involves modifications to compensation flow only and no changes to energy use, generated waste or sustainable designs are envisaged. The option will make use of existing infrastructure.	None	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote the sustainable management of natural resources have been identified for this option.	None	None
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Small	Moderate	Short-term	Temporary	Low (adverse)	Medium (adverse)	Impacts towards reaches of the River Colne and River Holme were considered in the assessment. Risk of short term acute, infrequent, temporary water quality pressures (acute toxicity of ammonia, suffocation from oxygen sags) locally downstream of listed CSOs during rainfall events. Due to existing water quality pressures, water quality throughout the study area would be at a moderate risk of deteriorating for total ammonia and oxygen from the implementation of the drought options. Overall there is a minor to moderate risk to water quality as a result of the drought option.	Moderate adverse	None
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Small	Moderate	Short-term	Temporary	Major (adverse)	Medium (adverse)	The drought option would lead to a major reduction in low flows (up to 67%), with an associated reduction in wetted width and depth over a 21.6 km stretch of the impacted reaches. Major hydrological impacts are anticipated towards the impacted reaches and towards three flow depleted reaches. Overall, moderate to major impacts are anticipated towards river habitats associated with the drought option.	Major adverse	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will be accompanied by water conservation campaigns to promote efficient use of water to protect the environment and safeguard supplies. Water availability is less than 30% in the zone of influence of the drought option.	None	Minor beneficial
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote long-term improvement in water efficiency have been identified for this option.	None	None
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	N/A	N/A	N/A	N/A	N/A	N/A	There are no land use changes associated with reduced compensation flow. It is anticipated that there will be no impacts on geologically sensitive sites.	None	None
Air and Climate	6.1 To maintain and improve air quality.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option involves a reduction in compensation flow with no change in existing abstraction volumes and would therefore not result in any increases in emissions to atmosphere.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option would not be associated with an increase in energy consumption, therefore, no changes to greenhouse gas emissions are envisaged.	None	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	Drought options are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought conditions which may become more prevalent due to climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	N/A	N/A	N/A	N/A	N/A	N/A	Nearby ancient monuments are not water-dependent and would not be impacted by the drought option.	None	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	N/A	N/A	N/A	N/A	N/A	N/A	There are no landscape designations in proximity to the impacted reaches of the drought option.	None	None

Drought Plan Option Name: South West Area Reservoir 10

Drought Plan Option Description: Reduced compensation flow release from South West Area Reservoir 10 from 18.00 Ml/d to 6.00 Ml/d.

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	The reduced flows would result in a number of impacts on fish species including: the stranding of individuals or groups; deterioration or loss of habitats; fragmentation of habitats; increased mortality; and changes in morphology or behaviour. As a result, NERC and Notable species would be subject to the following adverse impacts: Major impact for brown trout. Moderate impact for white-clawed crayfish, water vole, and bullhead. Minor impacts regarding grayling and barbel. There is a moderate risk of deterioration of WFD status (fish and invertebrates).	Moderate adverse	None
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	N/A	N/A	N/A	N/A	N/A	N/A	Invasive species utilise flow of the watercourse for dispersal. The implementation of the drought option would lead to a reduction in flow and is therefore not anticipated to increase the spread of aquatic invasive non-native species.	None	None
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Small	High	Short-term	Temporary	Medium (beneficial)	Medium (beneficial)	The drought option would deliver up to 12.00 Ml/d helping to maintain essential public water supplies during drought conditions, and therefore help maintain public health and well-being.	None	Moderate beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	There is an organised angling club present on the impacted reaches. Due to the major reduction in water flows and levels there would be a moderate adverse impact on the angling quality of the reach.	Moderate adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Small	High	Short-term	Temporary	Medium (beneficial)	Medium (beneficial)	The option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Moderate beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	No impacts on material assets are anticipated. The option involves modifications to compensation flow only and no changes to energy use, generated waste or sustainable designs are envisaged. The option will make use of existing infrastructure.	None	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote the sustainable management of natural resources have been identified for this option.	None	None
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	Impacts towards reaches of the Calder and Ryburn were considered in the assessment. Continued risk of short term acute, infrequent, temporary water quality pressures (acute toxicity of ammonia, suffocation from oxygen sags) locally downstream of listed CSO during rainfall events . Water quality throughout the study area would be at moderate risk of deteriorating, from the implementation of the drought option, for dissolved oxygen, total ammonia and phosphate. Overall there is a minor to moderate risk to water quality as a result of the drought option.	Moderate adverse	None
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Small	Moderate	Short-term	Temporary	Major (adverse)	Medium (adverse)	The drought option would lead to a major reduction in low flows (up to 67%), with an associated reduction in wetted width and depth over a 19.9 km stretch of the impacted reaches. Major hydrological impacts are anticipated towards the impacted reaches. Overall minor to major impacts are anticipated towards river habitats associated with the drought option.	Major adverse	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will be accompanied by water conservation campaigns to promote efficient use of water to protect the environment and safeguard supplies. Water availability is less than 30% in the zone of influence of the drought option.	None	Minor beneficial
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote long-term improvement in water efficiency have been identified for this option.	None	None
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	N/A	N/A	N/A	N/A	N/A	N/A	There are no land use changes associated with reduced compensation flow. It is anticipated that there will be no impacts on geologically sensitive sites.	None	None
Air and Climate	6.1 To maintain and improve air quality.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option involves a reduction in compensation flow with no change in existing abstraction volumes and would therefore not result in any increases in emissions to atmosphere.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option would not be associated with an increase in energy consumption, therefore, no changes to greenhouse gas emissions are envisaged.	None	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	Drought options are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought conditions which may become more prevalent due to climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	N/A	N/A	N/A	N/A	N/A	N/A	There are a number of schedules ancient monuments in proximity to the impacted reaches of the drought option, however, they are not water-dependent and would not be impacted by the drought option.	None	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	Small	Moderate	Short-term	Temporary	Low (adverse)	Medium (beneficial)	A significant reduction in the water level of the impacted reaches would have a visual impact on the landscape setting of the Calderdale Way National Trail. However, the reduced water levels of the reaches would be short-term and temporary so the impact would only be minor.	Minor adverse	None

Drought Plan Option Name: South West Area Reservoir 11

Drought Plan Option Description: Reduced compensation flow release from South West Area Reservoir 11 from 3.41 Ml/d to 1.13 Ml/d.

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	The reduced flows would result in a number of impacts on fish species including: the stranding of individuals or groups; deterioration or loss of habitats; fragmentation of habitats; increased mortality; and changes in morphology or behaviour. As a result, NERC and Notable species would be subject to the following adverse impacts: Major impact for brown trout. Moderate impact for white-clawed fish, water vole and bullhead. Minor impact for grayling and barbel. There is a moderate risk of deterioration of WFD status (fish and invertebrates).	Moderate adverse	None
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	N/A	N/A	N/A	N/A	N/A	N/A	Invasive species utilise flow of the watercourse for dispersal. The implementation of the drought option would lead to a reduction in flow and is therefore not anticipated to increase the spread of aquatic invasive non-native species.	None	None
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option would deliver up to 2.28 Ml/d helping to maintain essential public water supplies during drought conditions, and therefore help maintain public health and well-being.	None	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	There is an organised angling club present on the impacted reaches. Due to the major reduction in water flows and levels there would be a moderate adverse impact on the angling quality of the reach.	Moderate adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Minor beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	No impacts on material assets are anticipated. The option involves modifications to compensation flow only and no changes to energy use, generated waste or sustainable designs are envisaged. The option will make use of existing infrastructure.	None	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote the sustainable management of natural resources have been identified for this option.	None	None
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Small	Moderate	Short-term	Temporary	Low (adverse)	Medium (adverse)	Impacts towards reaches of the Calder, Booth Dean Clough and Ryburn were considered in the assessment. One WwTW presents a significant water quality pressure in the impacted reaches. The risk of water quality deterioration below what supports good WFD status for fish and invertebrates is moderate for dissolved oxygen and ammonia. Overall there is a minor to moderate risk to water quality as a result of the drought option.	Moderate adverse	None
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Small	Moderate	Short-term	Temporary	Major (adverse)	Medium (adverse)	The drought option would lead to a major reduction in low flows (up to 67%), with an associated reduction in wetted width and depth over a 21.1 km stretch of the impacted reaches. Major hydrological impacts are anticipated towards the impacted reaches. Overall minor to major impacts are anticipated towards river habitats associated with the drought option.	Major adverse	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought permit will be accompanied by water conservation campaigns to promote efficient use of water to protect the environment and safeguard supplies. Water availability is less than 30% in the zone of influence of the drought option.	None	Minor beneficial
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote long-term improvement in water efficiency have been identified for this option.	None	None
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	N/A	N/A	N/A	N/A	N/A	N/A	There are no land use changes associated with reduced compensation flow. It is anticipated that there will be no impacts on geologically sensitive sites.	None	None
Air and Climate	6.1 To maintain and improve air quality.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option involves a reduction in compensation flow with no change in existing abstraction volumes and would therefore not result in any increases in emissions to atmosphere.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option would not be associated with an increase in energy consumption, therefore, no changes to greenhouse gas emissions are envisaged.	None	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (adverse)	Drought options are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought conditions which may become more prevalent due to climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	N/A	N/A	N/A	N/A	N/A	N/A	One Scheduled Ancient Monument is not water-dependent and would not be impacted by the drought option.	None	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	Small	Moderate	Short-term	Temporary	Low (adverse)	Low (adverse)	A significant reduction in the water level of the impacted reaches would have a visual impact on the landscape setting of the Calderdale Way National Trail. However, the reduced water levels of the reaches would be short-term and temporary so the impact would only be minor.	Negligible adverse	None

Drought Plan Option Name: South West Area Reservoir 12

Drought Plan Option Description: Reduced compensation flow release from South West Area Reservoir 12 from 5.90 Ml/d to 1.95 Ml/d.

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	The reduced flows would result in a number of impacts on fish species including: the stranding of individuals or groups; deterioration or loss of habitats; fragmentation of habitats; increased mortality; and changes in morphology or behaviour. As a result, NERC and Notable species would be subject to the following adverse impacts: Major impact for brown trout. Moderate impact for bullhead, water vole and white-clawed crayfish. There is a moderate risk of deterioration of WFD status (fish and invertebrates).	Moderate adverse	None
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	N/A	N/A	N/A	N/A	N/A	N/A	Invasive species utilise flow of the watercourse for dispersal. The implementation of the drought option would lead to a reduction in flow and is therefore not anticipated to increase the spread of aquatic invasive non-native species.	None	None
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option would deliver up to 3.95 Ml/d helping to maintain essential public water supplies during drought conditions, and therefore help maintain public health and well-being.	None	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	There is an organised angling club present on the impacted reaches. Due to the major reduction in water flows and levels there would be a moderate adverse impact on the angling quality of the reach.	Moderate adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Minor beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	No impacts on material assets are anticipated. The option involves modifications to compensation flow only and no changes to energy use, generated waste or sustainable designs are envisaged. The option will make use of existing infrastructure.	None	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote the sustainable management of natural resources have been identified for this option.	None	None
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Small	Moderate	Short-term	Temporary	Low (adverse)	Medium (adverse)	Impacts towards reaches of the Ryburn watercourses were considered in the assessment. One WwTW and one fish farm present significant water quality pressures in the impacted reaches. Continued risk of short term acute, infrequent, temporary water quality pressures (acute toxicity of ammonia, suffocation from oxygen sags) locally downstream of listed CSO during rainfall events. The risk of water quality deterioration below what supports good WFD status for fish and invertebrates is moderate for dissolved oxygen and ammonia. Overall there is a moderate risk to water quality as a result of the drought option.	Moderate adverse	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Small	Moderate	Short-term	Temporary	Major (adverse)	Medium (adverse)	The drought option would lead to a major reduction in low flows (up to 67%), with an associated reduction in wetted width and depth over a 7.6 km stretch of the impacted reaches. Major hydrological impacts are anticipated towards the impacted reaches. Overall major impacts are anticipated towards river habitats associated with the drought option.	Major adverse	None
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will be accompanied by water conservation campaigns to promote efficient use of water to protect the environment and safeguard supplies. Water availability is less than 30% in the zone of influence of the drought option.	None	Minor beneficial
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote long-term improvement in water efficiency have been identified for this option.	None	None
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	N/A	N/A	N/A	N/A	N/A	N/A	There are no land use changes associated with reduced compensation flow. It is anticipated that there will be no impacts on geologically sensitive sites.	None	None
Air and Climate	6.1 To maintain and improve air quality.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option involves a reduction in compensation flow with no change in existing abstraction volumes and would therefore not result in any increases in emissions to atmosphere.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option would not be associated with an increase in energy consumption, therefore, no changes to greenhouse gas emissions are envisaged.	None	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	Drought options are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought conditions which may become more prevalent due to climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	N/A	N/A	N/A	N/A	N/A	N/A	Nearby ancient monuments are not water-dependent and would not be impacted by the drought option.	None	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	Small	Moderate	Short-term	Temporary	Low (adverse)	Low (adverse)	A significant reduction in the water level of the impacted reaches would have a visual impact on the landscape setting of the Calderdale Way National Trail. However, the reduced water levels of the reaches would be short-term and temporary so the impact would only be minor.	Negligible adverse	None

Drought Plan Option Name: South West Area 13

Drought Plan Option Description: Reduced compensation flow release from South West Area Reservoir 13 from 6.82 Ml/d to 2.25 Ml/d.

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	The reduced flows would result in a number of impacts on fish species including: the stranding of individuals or groups; deterioration or loss of habitats; fragmentation of habitats; increased mortality; and changes in morphology or behaviour. As a result, NERC and Notable species would be subject to the following adverse impacts: Major impact for brown trout. Moderate impact for water vole. Minor impact for bullhead, grayling and barbel. There is a moderate risk of deterioration of WFD status (invertebrates and fish).	Moderate adverse	None
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	N/A	N/A	N/A	N/A	N/A	N/A	Invasive species utilise flow of the watercourse for dispersal. The implementation of the drought option would lead to a reduction in flow and is therefore not anticipated to increase the spread of aquatic invasive non-native species.	None	None
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbe ing).	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option would deliver up to 4.57 Ml/d helping to maintain essential public water supplies during drought conditions, and therefore help maintain public health and well-being.	None	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Low (adverse)	There is casual angling present on Cragg Brook. The major flow reduction would have a minor adverse impact on the angling quality of the brook.	Minor adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Minor beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	No impacts on material assets are anticipated. The option involves modifications to compensation flow only and no changes to energy use, generated waste or sustainable designs are envisaged. The option will make use of existing infrastructure.	None	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote the sustainable management of natural resources have been identified for this option.	None	None
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	Impacts towards reaches of the Cragg Brook and River Calder were considered in the assessment. Risk of short term acute, infrequent, temporary water quality pressures (acute toxicity of ammonia, suffocation from oxygen sags) locally downstream of listed CSOs during rainfall events. Due to the presence of consented discharges, water quality throughout the study area would be at moderate risk from the implementation of the drought option, for dissolved oxygen and total ammonia. Overall there is a minor to moderate risk to water quality as a result of the drought option.	Moderate adverse	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Small	Moderate	Short-term	Temporary	Major (adverse)	Medium (adverse)	The drought option would lead to a major reduction in low flows (up to 67%), with an associated reduction in wetted width and depth over a 20.5 km stretch of the impacted reaches. Moderate to major hydrological impacts are anticipated towards the impacted reaches. Overall minor to major impacts are anticipated towards river habitats associated with the drought option.	Major adverse	None
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will be accompanied by water conservation campaigns to promote efficient use of water to protect the environment and safeguard supplies. Water availability is at least 70% in the zone of influence of the drought option.	None	Minor beneficial
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote long-term improvement in water efficiency have been identified for this option.	None	None
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	N/A	N/A	N/A	N/A	N/A	N/A	There are no land use changes associated with reduced compensation flow. It is anticipated that there will be no impacts on geologically sensitive sites.	None	None
Air and Climate	6.1 To maintain and improve air quality.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option involves a reduction in compensation flow with no change in existing abstraction volumes and would therefore not result in any increases in emissions to atmosphere.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option would not be associated with an increase in energy consumption, therefore, no changes to greenhouse gas emissions are envisaged.	None	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	Drought options are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought conditions which may become more prevalent due to climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	N/A	N/A	N/A	N/A	N/A	N/A	Nearby ancient monuments are not water-dependent and would not be impacted by the drought option.	None	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	Small	Moderate	Short-term	Temporary	Low (adverse)	Medium (adverse)	A significant reduction in the water level of the impacted reaches would have a visual impact on the landscape setting of the Calderdale Way National Trail. However, the reduced water levels of the reaches would be short-term and temporary so the impact would only be minor.	Minor adverse	None

Drought Plan Option Name: South West Area Reservoir 14

Drought Plan Option Description: Reduced compensation flow release from South West Area Reservoir 14 from 2.64 Ml/d to 0.87 Ml/d.

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	The reduced flows would result in a number of impacts on fish species including: the stranding of individuals or groups; deterioration or loss of habitats; fragmentation of habitats; increased mortality; and changes in morphology or behaviour. As a result, NERC and Notable species would be subject to the following adverse impacts: Moderate impact for brown trout, white-clawed crayfish and water vole. Minor impact for bullhead. There is a moderate risk of deterioration of WFD status (fish and invertebrates).	Moderate adverse	None
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	N/A	N/A	N/A	N/A	N/A	N/A	Invasive species utilise flow of the watercourse for dispersal. The implementation of the drought option would lead to a reduction in flow and is therefore not anticipated to increase the spread of aquatic invasive non-native species.	None	None
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option would deliver up to 1.77 Ml/d helping to maintain essential public water supplies during drought conditions, and therefore help maintain public health and well-being.	None	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Low (adverse)	There is casual angling present on Cragg Brook. The major flow reduction would have a minor adverse impact on the angling quality of the brook.	Minor adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Minor beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	No impacts on material assets are anticipated. The option involves modifications to compensation flow only and no changes to energy use, generated waste or sustainable designs are envisaged. The option will make use of existing infrastructure.	None	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote the sustainable management of natural resources have been identified for this option.	None	None
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Small	Moderate	Short-term	Temporary	Low (adverse)	Medium (adverse)	Impacts towards reaches of the Cragg Brook were considered in the assessment. Risk of short term acute, infrequent, temporary water quality pressures (acute toxicity of ammonia, suffocation from oxygen sags) locally downstream of listed CSOs during rainfall events. Water quality, including dissolved oxygen, total ammonia, and phosphate concentrations, would be at moderate risk of deteriorating throughout the study area, from the implementation of the drought option. Overall there is a minor to moderate risk to water quality as a result of the drought option.	Moderate adverse	None
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	The drought option would lead to a major reduction in low flows (up to 67%), with an associated reduction in wetted width and depth over a 7.8 km stretch of the impacted reaches. Major hydrological impacts are anticipated towards the impacted reaches. Overall moderate to major impacts are anticipated towards river habitats associated with the drought option.	Moderate adverse	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will be accompanied by water conservation campaigns to promote efficient use of water to protect the environment and safeguard supplies. Water availability is at least 70% in the zone of influence of the drought option.	None	Minor beneficial
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote long-term improvement in water efficiency have been identified for this option.	None	None
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	N/A	N/A	N/A	N/A	N/A	N/A	There are no land use changes associated with reduced compensation flow. It is anticipated that there will be no impacts on geologically sensitive sites.	None	None
Air and Climate	6.1 To maintain and improve air quality.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option involves a reduction in compensation flow with no change in existing abstraction volumes and would therefore not result in any increases in emissions to atmosphere.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option would not be associated with an increase in energy consumption, therefore, no changes to greenhouse gas emissions are envisaged.	None	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	Drought options are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought conditions which may become more prevalent due to climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	N/A	N/A	N/A	N/A	N/A	N/A	Nearby ancient monuments are not water-dependent and would not be impacted by the drought option.	None	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	Small	Moderate	Short-term	Temporary	Low (adverse)	Medium (adverse)	A significant reduction in the water level of the impacted reaches would have a visual impact on the landscape setting of the Calderdale Way National Trail. However, the reduced water levels of the reaches would be short-term and temporary so the impact would only be minor.	Minor adverse	None

Drought Plan Option Name: South West Area Reservoir 15

Drought Plan Option Description: Reduced compensation flow release from South West Area Reservoir 15 from 3.49 Ml/d to 1.15 Ml/d.

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	The reduced flows would result in a number of impacts on fish species including: the stranding of individuals or groups; deterioration or loss of habitats; fragmentation of habitats; increased mortality; and changes in morphology or behaviour. As a result, NERC and Notable species would be subject to the following adverse impacts: Major impact for white-clawed crayfish, water vole, brown trout and European eel. Moderate impact for otter and bullhead. There is a major risk of deterioration of WFD status (fish) and moderate risk of deterioration of WFD status (invertebrates).	Moderate adverse	None
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	N/A	N/A	N/A	N/A	N/A	N/A	Invasive species utilise flow of the watercourse for dispersal. The implementation of the drought option would lead to a reduction in flow and is therefore not anticipated to increase the spread of aquatic invasive non-native species.	None	None
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option would deliver up to 2.34 Ml/d helping to maintain essential public water supplies during drought conditions, and therefore help maintain public health and well-being.	None	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Low (adverse)	There is casual angling present on Black Brook. The major reduction in water levels and flows would have a minor adverse impact on the angling quality of the reach.	Minor adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Minor beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	No impacts on material assets are anticipated. The option involves modifications to compensation flow only and no changes to energy use, generated waste or sustainable designs are envisaged. The option will make use of existing infrastructure.	None	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote the sustainable management of natural resources have been identified for this option.	None	None
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Small	Low	Short-term	Temporary	Medium (adverse)	Medium (adverse)	Impacts towards reaches of the Black Brook were considered in the assessment. Two WwTWs present significant water quality pressures in the impacted reaches. Continued risk of short term acute, infrequent, temporary water quality pressures (acute toxicity of ammonia, suffocation from oxygen sags) locally downstream of listed CSO during rainfall events. The risk of water quality deterioration below what supports good WFD status for fish and invertebrates is moderate for dissolved oxygen and ammonia. Overall there is a moderate risk to water quality as a result of the drought option.	Moderate adverse	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Small	Moderate	Short-term	Temporary	Major (adverse)	Medium (adverse)	The drought option would lead to a major reduction in low flows, with an associated reduction in wetted width and depth over a 8.9 km stretch of the impacted reaches. Major hydrological impacts are anticipated towards the impacted reaches and towards two flow depleted reaches. Overall, major impacts are anticipated towards river habitats associated with the drought option.	Major adverse	None
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will be accompanied by water conservation campaigns to promote efficient use of water to protect the environment and safeguard supplies. Water availability is at least 50% in the zone of influence of the drought option.	None	Minor beneficial
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote long-term improvement in water efficiency have been identified for this option.	None	None
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	N/A	N/A	N/A	N/A	N/A	N/A	There are no land use changes associated with reduced compensation flow. It is anticipated that there will be no impacts on geologically sensitive sites.	None	None
Air and Climate	6.1 To maintain and improve air quality.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option involves a reduction in compensation flow with no change in existing abstraction volumes and would therefore not result in any increases in emissions to atmosphere.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option would not be associated with an increase in energy consumption, therefore, no changes to greenhouse gas emissions are envisaged.	None	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	Drought options are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought conditions which may become more prevalent due to climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	N/A	N/A	N/A	N/A	N/A	N/A	Nearby ancient monuments are not water-dependent and would not be impacted by the drought option.	None	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	Small	Moderate	Short-term	Temporary	Low (adverse)	Medium (adverse)	A significant reduction in the water level of the impacted reaches would have a visual impact on the landscape setting of the Calderdale National Trail. However, the reduced water levels of the reaches would be short-term and temporary.	Minor adverse	None

Drought Plan Option Name: South West Area Reservoir 16

Drought Plan Option Description: Reduced compensation flow release from South West Area Reservoir 16 from 1.36 Ml/d to 0.45 Ml/d.

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	The reduced flows would result in a number of impacts on fish species including: the stranding of individuals or groups; deterioration or loss of habitats; fragmentation of habitats; increased mortality; and changes in morphology or behaviour. As a result, NERC and Notable species would be subject to the following adverse impacts: Moderate impact for water vole, otter and white-clawed crayfish There is a moderate risk of deterioration of WFD status (invertebrates) and a negligible risk to WFD status (fish).	Moderate adverse	None
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	N/A	N/A	N/A	N/A	N/A	N/A	Invasive species utilise flow of the watercourse for dispersal. The implementation of the drought option would lead to a reduction in flow and is therefore not anticipated to increase the spread of aquatic invasive non-native species.	None	None
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option would deliver up to 0.91 Ml/d helping to maintain essential public water supplies during drought conditions, and therefore help maintain public health and well-being.	None	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	N/A	N/A	N/A	N/A	N/A	N/A	There are no opportunities or threats to formal or informal recreation.	None	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Minor beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	No impacts on material assets are anticipated. The option involves modifications to compensation flow only and no changes to energy use, generated waste or sustainable designs are envisaged. The option will make use of existing infrastructure.	None	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote the sustainable management of natural resources have been identified for this option.	None	None
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Small	Moderate	Short-term	Temporary	Low (adverse)	Medium (adverse)	Impacts towards reaches of the River Colne were considered in the assessment. The risk of water quality deterioration below what supports good WFD status for fish and invertebrates is minor for dissolved oxygen, ammonia and phosphate. Overall there is a minor risk to water quality as a result of the drought option.	Minor adverse	None
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Small	Moderate	Short-term	Temporary	Major (adverse)	Medium (adverse)	The drought option would lead to a major reduction in low flows (up to 67%), with an associated reduction in wetted width and depth over a 2 km stretch of the impacted reaches. Overall, major impacts are anticipated towards river habitats associated with the drought option.	Major adverse	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will be accompanied by water conservation campaigns to promote efficient use of water to protect the environment and safeguard supplies. Water availability is at least 70% in the zone of influence of the drought option.	None	Minor beneficial
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote long-term improvement in water efficiency have been identified for this option.	None	None
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	N/A	N/A	N/A	N/A	N/A	N/A	There are no land use changes associated with reduced compensation flow. It is anticipated that there will be no impacts on geologically sensitive sites.	None	None
Air and Climate	6.1 To maintain and improve air quality.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option involves a reduction in compensation flow with no change in existing abstraction volumes and would therefore not result in any increases in emissions to atmosphere.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option would not be associated with an increase in energy consumption, therefore, no changes to greenhouse gas emissions are envisaged.	None	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	Drought options are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought conditions which may become more prevalent due to climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	N/A	N/A	N/A	N/A	N/A	N/A	Nearby ancient monuments are not water-dependent and would not be impacted by the drought option.	None	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	N/A	N/A	N/A	N/A	N/A	N/A	There are no landscape designations in proximity to the impacted reaches of the drought option.	None	None

Drought Plan Option Name: South West Area Reservoir 17

Drought Plan Option Description: Reduced compensation flow release from South West Area Reservoir 17 from 3.48-9.09 Ml/d to 1.16 Ml/d.

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	The overall risk to water quality and aquatic habitats on the canal from the drought option is assessed as negligible and as such aquatic communities including fish and invertebrates are not considered sensitive to drought option implementation. The reduced flows and potential for decreased boat traffic in the canal may result in a positive impact on macrophytes including floating water plantain (*Luronium natans*).	Negligible adverse	Negligible beneficial
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	N/A	N/A	N/A	N/A	N/A	N/A	Invasive species utilise flow of the watercourse for dispersal. The implementation of the drought option would lead to a reduction in flow and is therefore not anticipated to increase the spread of aquatic invasive non-native species.	None	None
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Small	High	Short-term	Temporary	Low (beneficial)	High (beneficial)	The drought option would deliver up to 7.94 Ml/d helping to maintain essential public water supplies during drought conditions, and therefore help maintain public health and well-being.	None	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	There is casual angling present on the Huddersfield Canal. The drought option would have a minor adverse impact on the angling quality.	Minor adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Minor beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	No impacts on material assets are anticipated. The option involves modifications to compensation flow only and no changes to energy use, generated waste or sustainable designs are envisaged. The option will make use of existing infrastructure.	None	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote the sustainable management of natural resources have been identified for this option.	None	None
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Small	Moderate	Short-term	Temporary	Low (adverse)	Low (adverse)	Effects towards the following waterbodies were considered in the assessment: -Huddersfield Narrow Canal -Huddersfield Broad Canal Although the Huddersfield Narrow Canal is an artificial waterbody, water quality is generally very good. The risk of water quality deterioration below what supports good WFD status for fish and invertebrates is minor for dissolved oxygen, ammonia and phosphate. Overall, there is a minor risk to water quality as a result of the drought option.	Minor adverse	None
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Small	Moderate	Short-term	Temporary	Major (adverse)	Medium (adverse)	The drought option would lead to a major reduction in low flows (up to 87%), with an associated reduction in wetted width and depth over a 37.9 km stretch of the Huddersfield Narrow Canal (HNC). The reduced water level would make the canal non-navigable for canal boats. However, this impact would be short-term and temporary. Major hydrological impacts are anticipated towards the impacted reaches of the HNC. Negligible impacts are anticipated towards river habitats of the HNC.	Major adverse	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will be accompanied by water conservation campaigns to promote efficient use of water to protect the environment and safeguard supplies. Water availability is less than 30% in the zone of influence of the drought option.	None	Minor beneficial
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote long-term improvement in water efficiency have been identified for this option.	None	None
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	N/A	N/A	N/A	N/A	N/A	N/A	There are no land use changes associated with reduced compensation flow. It is anticipated that there will be no impacts on geologically sensitive sites.	None	None
Air and Climate	6.1 To maintain and improve air quality.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option involves a reduction in compensation flow with no change in existing abstraction volumes and would therefore not result in any increases in emissions to atmosphere.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option would not be associated with an increase in energy consumption, therefore, no changes to greenhouse gas emissions are envisaged.	None	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	Drought options are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought conditions which may become more prevalent due to climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	N/A	N/A	N/A	N/A	N/A	N/A	One Scheduled Ancient Monument is not water-dependent and would not be impacted by the drought option.	None	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	Small	Moderate	Short-term	Temporary	Low (adverse)	Medium (adverse)	A significant reduction in the water level of the impacted reaches would have a visual impact on the landscape setting of the Kirklees Way and Pennine Way National Trails. However, the reduced water levels of the reaches would be short-term and temporary.	Minor adverse	None

Drought Plan Option Name: South West Area Reservoir 18

Drought Plan Option Description: Reduced compensation flow release from South West Area Reservoir 18 from 8.07 Ml/d to 2.66 Ml/d.

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	The reduced flows would result in a number of impacts on fish species including: the stranding of individuals or groups; deterioration or loss of habitats; fragmentation of habitats; increased mortality; and changes in morphology or behaviour. As a result, NERC and Notable species would be subject to the following adverse impacts: Major impact for white-clawed crayfish and brown trout. Moderate impact for otter, water vole, grayling, bullhead, European eel, river lamprey and brook lamprey. Minor impact for barbel. There is a major risk of deterioration of WFD status (fish) and moderate to WFD status (invertebrates).	Moderate adverse	None
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	N/A	N/A	N/A	N/A	N/A	N/A	Invasive species utilise flow of the watercourse for dispersal. The implementation of the drought option would lead to a reduction in flow and is therefore not anticipated to increase the spread of aquatic invasive non-native species.	None	None
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option would deliver up to 5.41 Ml/d helping to maintain essential public water supplies during drought conditions, and therefore help maintain public health and well-being.	None	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	There is an organised angling club present on the River Colne. The reduction in flows and water levels would have a moderate adverse impact on the angling club.	Moderate adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Minor beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	No impacts on material assets are anticipated. The option involves modifications to compensation flow only and no changes to energy use, generated waste or sustainable designs are envisaged. The option will make use of existing infrastructure.	None	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote the sustainable management of natural resources have been identified for this option.	None	None
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Small	Moderate	Short-term	Temporary	Low (adverse)	Medium	Impacts towards reaches of the River Colne and Wessenden Brook and River Calder were considered in the assessment. Risk of short term acute, infrequent, temporary water quality pressures (acute toxicity of ammonia, suffocation from oxygen sags) locally downstream of listed CSOs during rainfall events. Therefore, the water quality deterioration risk imposed by the implementation of the drought option would be moderate for total ammonia and oxygen, and minor for phosphate, due to consented discharges. Overall there is a minor to moderate risk to water quality as a result of the drought option.	Minor adverse	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Small	Moderate	Short-term	Temporary	Major (adverse)	Medium (adverse)	The drought option would lead to a major reduction in low flows (up to 67%), with an associated reduction in wetted width and depth over a 77.6 km stretch of the impacted reaches. Moderate to major hydrological impacts are anticipated towards the impacted reaches and towards six flow depleted reaches. Overall, minor to major impacts are anticipated towards river habitats associated with the drought option.	Major adverse	None
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought permit will be accompanied by water conservation campaigns to promote efficient use of water to protect the environment and safeguard supplies. Water availability is less than 30% in the zone of influence of the drought option.	None	Minor beneficial
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote long-term improvement in water efficiency have been identified for this option.	None	None
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	N/A	N/A	N/A	N/A	N/A	N/A	There are no land use changes associated with reduced compensation flow. It is anticipated that there will be no impacts on geologically sensitive sites.	None	None
Air and Climate	6.1 To maintain and improve air quality.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option involves a reduction in compensation flow with no change in existing abstraction volumes and would therefore not result in any increases in emissions to atmosphere.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option would not be associated with an increase in energy consumption, therefore, no changes to greenhouse gas emissions are envisaged.	None	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	Drought options are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought conditions which may become more prevalent due to climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	N/A	N/A	N/A	N/A	N/A	N/A	There are no heritage assets in proximity to the impacted of the drought option.	None	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	Small	Moderate	Short-term	Temporary	Low (adverse)	Medium (adverse)	A significant reduction in the water level of the impacted reaches would have a visual impact on the landscape setting of the Kirklees Way National Trail. However, the reduced water levels of the reaches would be short-term and temporary.	Minor adverse	None

Drought Plan Option Name: South West Area Reservoir 19

Drought Plan Option Description: Reduced compensation flow release from South West Area Reservoir 19 from 7.27 Ml/d to 2.40 Ml/d.

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	The reduced flows would result in a number of impacts on fish species including: the stranding of individuals or groups; deterioration or loss of habitats; fragmentation of habitats; increased mortality; and changes in morphology or behaviour. As a result, NERC and Notable species would be subject to the following adverse impacts: Major impact for brown trout. Moderate impact for otter, bullhead, water vole, bullhead, grayling, European eel and white-clawed crayfish. There is a major risk of deterioration of WFD status (fish) and moderate risk to WFD status (invertebrates).	Moderate adverse	None
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	N/A	N/A	N/A	N/A	N/A	N/A	Invasive species utilise flow of the watercourse for dispersal. The implementation of the drought option would lead to a reduction in flow and is therefore not anticipated to increase the spread of aquatic invasive non-native species.	None	None
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option would deliver up to 4.87 Ml/d helping to maintain essential public water supplies during drought conditions, and therefore help maintain public health and well-being.	None	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	There is an organised angling club present on the River Colne. The reduction in flows and water levels would have a moderate adverse impact on the angling club.	Moderate adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Minor beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	No impacts on material assets are anticipated. The option involves modifications to compensation flow only and no changes to energy use, generated waste or sustainable designs are envisaged. The option will make use of existing infrastructure.	None	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote the sustainable management of natural resources have been identified for this option.	None	None
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Small	Moderate	Short-term	Temporary	Low (adverse)	Medium (adverse)	Impacts towards reaches of the River Colne and River Calder were considered in the assessment. Risk of short term acute, infrequent, temporary water quality pressures (acute toxicity of ammonia, suffocation from oxygen sags) locally downstream of listed CSOs during rainfall events. The risk of water quality deterioration below what supports good WFD status for fish and invertebrates is moderate for dissolved oxygen and ammonia, and minor phosphate. Overall there is a minor to moderate risk to water quality as a result of the drought option.	Minor adverse	None
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Small	Moderate	Short-term	Temporary	Major (adverse)	Medium (adverse)	The drought option would lead to a major reduction in low flows (up to 67%), with an associated reduction in wetted width and depth over a 77.3 km stretch of the impacted reaches. Moderate to major hydrological impacts are anticipated towards the impacted reaches and towards four flow depleted reaches. Overall, minor to major impacts are anticipated towards river habitats associated with the drought option.	Major adverse	None
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will be accompanied by water conservation campaigns to promote efficient use of water to protect the environment and safeguard supplies. Water availability is at least 70% in the zone of influence of the drought option.	None	Minor beneficial

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote long-term improvement in water efficiency have been identified for this option.	None	None
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	N/A	N/A	N/A	N/A	N/A	N/A	There are no land use changes associated with reduced compensation flow. It is anticipated that there will be no impacts on geologically sensitive sites.	None	None
Air and Climate	6.1 To maintain and improve air quality.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option involves a reduction in compensation flow with no change in existing abstraction volumes and would therefore not result in any increases in emissions to atmosphere.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option would not be associated with an increase in energy consumption, therefore, no changes to greenhouse gas emissions are envisaged.	None	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	Drought options are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought conditions which may become more prevalent due to climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	N/A	N/A	N/A	N/A	N/A	N/A	There are no heritage assets in proximity to the impacted of the drought option.	None	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	Small	Moderate	Short-term	Temporary	Low (adverse)	Medium (adverse)	A significant reduction in the water level of the impacted reaches would have a visual impact on the landscape setting of the Kirklees Way National Trail. However, the reduced water levels of the reaches would be short-term and temporary.	Minor adverse	None

Drought Plan Option Name: South West Area 20

Drought Plan Option Description: Reduced compensation flow release fromSouth West Area Reservoir 20 from 2.66 Ml/d to 0.88 Ml/d.

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species) and consider adaptability to climate change.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	The reduced flows would result in a number of impacts on fish species including: the stranding of individuals or groups; deterioration or loss of habitats; fragmentation of habitats; increased mortality; and changes in morphology or behaviour. As a result, NERC and Notable species would be subject to the following adverse impacts: Major impact for brown trout. Moderate impact for white-clawed crayfish, otter, water vole, bullhead and grayling. There is a moderate risk of deterioration of WFD status for fish and invertebrates.	Moderate adverse	None
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	N/A	N/A	N/A	N/A	N/A	N/A	Invasive species utilise flow of the watercourse for dispersal. The implementation of the drought option would lead to a reduction in flow and is therefore not anticipated to increase the spread of aquatic invasive non-native species.	None	None
Population and human health	2.1 To protect and improve health and well-being and reduce inequalities	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option would deliver up to 1.78 Ml/d helping to maintain essential public water supplies during drought conditions, and therefore help maintain public health and well-being.	None	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Moderate	Short-term	Temporary	Low (adverse)	Medium (adverse)	There is casual angling present on the impacted reaches. The reduced flows would have a minor adverse impact on the angling quality of the reach.	Minor adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Minor beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	No impacts on material assets are anticipated. The option involves modifications to compensation flow only and no changes to energy use, generated waste or sustainable designs are envisaged. The option will make use of existing infrastructure.	None	Minor beneficial
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	Impacts towards reaches of the River Colne and River Holme were considered in the assessment. Risk of short term acute, infrequent, temporary water quality pressures (acute toxicity of ammonia, suffocation from oxygen sags) locally downstream of listed CSO during rainfall events. The risk of water quality deterioration below what supports good WFD status for fish and invertebrates is moderate for dissolved oxygen, ammonia and phosphate. Overall there is a minor to moderate risk to water quality as a result of the drought option.	Moderate adverse	None
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Small	Moderate	Short-term	Temporary	Major (adverse)	Medium (adverse)	The drought option would lead to a major reduction in low flows (up to 67%), with an associated reduction in wetted width and depth over a 18.5 km stretch of the impacted reaches. Major hydrological impacts are anticipated towards the impacted reaches and towards four flow depleted reaches. Overall, major impacts are anticipated towards river habitats associated with the drought option.	Major adverse	None
Water	4.3 To ensure appropriate and sustainable management of water supplies whilst protecting ecosystem functions that rely on water resources including contributing to the achievement of WFD objectives	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will be accompanied by water conservation campaigns to promote efficient use of water to protect the environment and safeguard supplies. Water availability is at least 70% in the zone of influence of the drought option.	None	Minor beneficial
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	N/A	N/A	N/A	N/A	N/A	N/A	There are no land use changes associated with reduced compensation flow. It is anticipated that there will be no impacts on geologically sensitive sites.	None	None
Air and Climate	6.1 To maintain and improve air quality.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option involves a reduction in compensation flow with no change in existing abstraction volumes and would therefore not result in any increases in emissions to atmosphere.	None	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Air and climate	6.2 To reduce greenhouse gas emissions.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option would not be associated with an increase in energy consumption, therefore, no changes to greenhouse gas emissions are envisaged.	None	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	Drought options are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought conditions which may become more prevalent due to climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	N/A	N/A	N/A	N/A	N/A	N/A	There are a number of Scheduled Ancient Monuments in proximity to the impacted reaches, however, they are not water-dependent and would not be impacted by the drought option.	None	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	N/A	N/A	N/A	N/A	N/A	N/A	There are no designated landscapes in proximity to the impacted reaches of the drought option.	None	None

Drought Plan Option Name: South West Area 21

Drought Plan Option Description: Reduced compensation flow release from South West Area Reservoir 21 from 0.61 Ml/d to 0.20 Ml/d.

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species) and consider adaptability to climate change.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	The reduced flows would result in a number of impacts on fish species including: the stranding of individuals or groups; deterioration or loss of habitats; fragmentation of habitats; increased mortality; and changes in morphology or behaviour. As a result, NERC and Notable species would be subject to the following adverse impacts: Major impact for brown trout. Moderate impact for white-clawed crayfish, otter, water vole, bullhead and grayling. There is a major risk of deterioration of WFD status (fish) and moderate risk to WFD status (invertebrates).	Moderate adverse	None
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	N/A	N/A	N/A	N/A	N/A	N/A	Invasive species utilise flow of the watercourse for dispersal. The implementation of the drought option would lead to a reduction in flow and is therefore not anticipated to increase the spread of aquatic invasive non-native species.	None	None
Population and human health	2.1 To protect and improve health and well-being and reduce inequalities	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option would deliver up to 0.41 Ml/d helping to maintain essential public water supplies during drought conditions, and therefore help maintain public health and well-being.	None	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	N/A	N/A	N/A	N/A	N/A	N/A	There are no opportunities or threats for recreation associated with this drought option.	None	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Minor beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	No impacts on material assets are anticipated. The option involves modifications to compensation flow only and no changes to energy use, generated waste or sustainable designs are envisaged. The option will make use of existing infrastructure.	None	Minor beneficial
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	Impacts towards reaches of the River Colne and River Holme were considered in the assessment. Risk of short term acute, infrequent, temporary water quality pressures (acute toxicity of ammonia, suffocation from oxygen sags) locally downstream of listed CSOs during rainfall events. Due to downstream locally consented discharges, the risk of water quality deterioration below what supports good WFD status for fish and invertebrates is moderate for dissolved oxygen, ammonia and phosphate. Overall there is a moderate risk to water quality as a result of the drought option.	Moderate adverse	None
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Small	Moderate	Short-term	Temporary	Major (adverse)	Medium (adverse)	The drought option would lead to a major reduction in low flows (up to 67%), with an associated reduction in wetted width and depth over a 20.2 km stretch of the impacted reaches. Major hydrological impacts are anticipated towards the impacted reaches and towards six flow depleted reaches. Overall, major impacts are anticipated towards river habitats associated with the drought option.	Major adverse	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Water	4.3 To ensure appropriate and sustainable management of water supplies whilst protecting ecosystem functions that rely on water resources including contributing to the achievement of WFD objectives	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will be accompanied by water conservation campaigns to promote efficient use of water to protect the environment and safeguard supplies. Water availability is at least 70% in the zone of influence of the drought option.	None	Minor beneficial
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	N/A	N/A	N/A	N/A	N/A	N/A	There are no land use changes associated with reduced compensation flow. It is anticipated that there will be no impacts on geologically sensitive sites.	None	None
Air and Climate	6.1 To maintain and improve air quality.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option involves a reduction in compensation flow with no change in existing abstraction volumes and would therefore not result in any increases in emissions to atmosphere.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option would not be associated with an increase in energy consumption, therefore, no changes to greenhouse gas emissions are envisaged.	None	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Small	High	Short-term	Temporary	Low (beneficial)	Medium	Drought options are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought conditions which may become more prevalent due to climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	N/A	N/A	N/A	N/A	N/A	N/A	There are no heritage in proximity to the impacted reaches of the drought option.	None	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	N/A	N/A	N/A	N/A	N/A	N/A	There are no designated landscapes in proximity to the impacted reaches of the drought option.	None	None

Drought Plan Option Name: South West Area Reservoir 22

Drought Plan Option Description: Reduced compensation flow release from South West Area Reservoir 22 from 1.40 Ml/d to 0.46 Ml/d.

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	The reduced flows would result in a number of impacts on fish species including: the stranding of individuals or groups; deterioration or loss of habitats; fragmentation of habitats; increased mortality; and changes in morphology or behaviour. As a result, NERC and Notable species would be subject to the following adverse impacts: Major impact for brown trout. Moderate impact for white-clawed crayfish, otter. water vole, grayling and bullhead. There is a moderate risk of deterioration of WFD status (fish and invertebrates).	Moderate adverse	None
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	N/A	N/A	N/A	N/A	N/A	N/A	Invasive species utilise flow of the watercourse for dispersal. The implementation of the drought option would lead to a reduction in flow and is therefore not anticipated to increase the spread of aquatic invasive non-native species.	None	None
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option would deliver up to 0.94 Ml/d helping to maintain essential public water supplies during drought conditions, and therefore help maintain public health and well-being.	None	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	N/A	N/A	N/A	N/A	N/A	N/A	There is unlikely that any angling activities take place on the impacted reaches.	None	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Minor beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	No impacts on material assets are anticipated. The option involves modifications to compensation flow only and no changes to energy use, generated waste or sustainable designs are envisaged. The option will make use of existing infrastructure.	None	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote the sustainable management of natural resources have been identified for this option.	None	None
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Small	Moderate	Short-term	Temporary	Low (adverse)	Medium (adverse)	Impacts towards reaches of the River Colne were considered in the assessment. Risk of short term acute, infrequent, temporary water quality pressures (acute toxicity of ammonia, suffocation from oxygen sags) locally downstream of listed CSOs during rainfall events. Due to downstream locally consented discharges, the risk of water quality deteriorating from the implementation of the drought option is uncertain but assumed to be moderate for total ammonia and oxygen, and phosphate. Overall there is a minor to moderate risk to water quality as a result of the drought option.	Minor adverse	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Small	Moderate	Short-term	Temporary	Major (adverse)	Medium (adverse)	The drought option would lead to a major reduction in low flows (up to 67%), with an associated reduction in wetted width and depth over a 21.1 km stretch of the impacted reaches. Major hydrological impacts are anticipated towards the impacted reaches and towards six flow depleted reaches. Overall, moderate to major impacts are anticipated towards river habitats associated with the drought option.	Major adverse	None
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought permit will be accompanied by water conservation campaigns to promote efficient use of water to protect the environment and safeguard supplies. Water availability is at least 70% in the zone of influence of the drought option.	None	Minor beneficial
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote long-term improvement in water efficiency have been identified for this option.	None	None
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	N/A	N/A	N/A	N/A	N/A	N/A	There are no land use changes associated with reduced compensation flow. It is anticipated that there will be no impacts on geologically sensitive sites.	None	None
Air and Climate	6.1 To maintain and improve air quality.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option involves a reduction in compensation flow with no change in existing abstraction volumes and would therefore not result in any increases in emissions to atmosphere.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option would not be associated with an increase in energy consumption, therefore, no changes to greenhouse gas emissions are envisaged.	None	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Small	High	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	Drought options are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought conditions which may become more prevalent due to climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	N/A	N/A	N/A	N/A	N/A	N/A	There are no heritage in proximity to the impacted reaches of the drought option.	None	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	N/A	N/A	N/A	N/A	N/A	N/A	There are no designated landscapes in proximity to the impacted reaches of the drought option.	None	None

Drought Option Name: Ouse increased abstraction

Drought Plan Option Description: The drought option involves an increased abstraction volume from the Ouse increased abstraction where an abstraction permit is currently in operation. The option would provide a benefit of up to 60 Ml/d dependent on flows in the river.

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Large	Low	Short-term	Temporary	Medium (adverse)	Medium (adverse)	Risks to 4 SSSI's have been assessed as negligible. The drought option will impact wetted width, especially in shallow areas of the channel, potentially reducing habitat availability. The drought option is assessed as having a moderate impact on the following NERC species and notable species due to siltation of spawning gravels, exposure of habitat: Moderate impact for water vole, sea lamprey and brook lamprey. Minor impact for river lamprey. There is a minor risk of deterioration of WFD status (macroinvertebrates and fish).	Moderate adverse	None
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	N/A	N/A	N/A	N/A	N/A	N/A	Invasive species utilise flow in the watercourse for dispersal. Implementation of the drought option will lead to a reduction in flow, and is therefore not anticipated to increase the spread of aquatic invasive non-native species.	None	None
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Large	Moderate	Short-term	Temporary	High (beneficial)	Medium (beneficial)	The drought option would provide up to 60 Ml/d, helping to maintain essential public water supplies during drought conditions, and will therefore help maintain public health and well being.	None	Major beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation	Large	Moderate	Short-term	Temporary	Low (adverse)	Low (adverse)	The drought option would only cause a minor reduction in flow, therefore recreational activities such as angling are unlikely to be impacted.	Negligible adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Large	Moderate	Short-term	Temporary	High (beneficial)	Medium (beneficial)	The drought option would contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Major beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Large	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	No adverse impacts on material assets are anticipated. The option involves relatively minor modifications to abstraction volumes only and no significant changes to energy use, generated waste or sustainable designs are envisaged. The option will make use of existing infrastructure.	None	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote the sustainable management of natural resources have been identified for this option.	None	None
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Large	Moderate	Short-term	Temporary	Low (adverse)	Low (adverse)	Impacts towards the River Ouse. There is a moderate risk that the drought option flow reduction would reduce the downstream dissolved oxygen saturation and total ammonia concentrations below values which support 'good' or 'high' status for fish and invertebrates. Overall there is a moderate risk to water quality as a result of the drought option associated with intermittent water quality pressures in the reach.	Moderate adverse	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Large	Moderate	Short-term	Temporary	Low (adverse)	Medium (adverse)	The drought option would lead to a minor reduction in low flows (up to 14%), with associated reduction in wetted width and depth over 20.6 km of the River Ouse. The drought option would not impact on the moderate to high flow regime in the receiving watercourses. There are two localised flow pressures in the upper reach, which collectively are assessed as having a minor impact when the drought option is operated. Overall minor adverse impacts are anticipated towards river habitats associated with the drought option.	Minor adverse	None
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Large	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity. The drought option will be accompanied by water conservation campaigns to promote efficient use of water to protect the environment and safeguard supplies. Water availability is at least 50% in the zone of influence of the drought option.	None	Minor beneficial
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote long-term improvement in water efficiency have been identified for this option.	None	None
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	N/A	N/A	N/A	N/A	N/A	N/A	There are no land use changes associated with the implementation of the drought option. It is anticipated that there will be no impacts on geologically sensitive sites.	None	None
Air and Climate	6.1 To maintain and improve air quality.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option involves only minor modifications to abstraction volumes, and would therefore not result in any significant increases in emissions to atmosphere.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	Large	Moderate	Short-term	Temporary	Low (adverse)	Low (adverse)	The increase in abstraction volumes would be associated with a negligible change in energy use, and therefore no significant increase in greenhouse gas emissions are envisaged. The use of existing infrastructure will minimise increases in greenhouse gas emissions.	Negligible adverse	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Large	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	Drought options are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought, which may become more prevalent due to climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	N/A	N/A	N/A	N/A	N/A	N/A	Nearby ancient monuments and heritage sites are not water-dependent, and would not be impacted by the drought option.	None	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	Large	Moderate	Short-term	Temporary	Low (adverse)	Medium (adverse)	The potential impact on the landscape setting of the numerous SSSIs adjacent to the impacted reaches has been assessed as minor, as the level of flow reduction would be short-term and not easily perceptible.	Minor adverse	None

Drought Plan Option Name: Ure increased abstraction

Drought Plan Option Description: The drought option involves an increased abstraction volume from the Ure increased abstraction where an abstraction permit is currently in operation.
The option would provide a benefit of up to 3.27 Ml/d dependent on flow levels in the river.

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Small	Low	Short-term	Temporary	Medium (adverse)	Medium (adverse)	The drought option will impact wetted width, especially in shallow areas of the channel, potentially reducing habitat availability. The drought option is assessed as having a moderate impact on the following NERC and notable species due to siltation of spawning gravels and exposure of habitat: Major impact for Atlantic salmon, European eel and river lamprey. Moderate impact for water vole, barbel, brook lamprey, brown trout, bullhead, grayling, fine-lined pea mussel and *Rhyacophila fasciata* . The risk of deterioration of WFD status has been assessed as moderate (fish and invertebrates).	Moderate adverse	None
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	Small	Moderate	Short-term	Temporary	Low (adverse)	Low (adverse)	Invasive non-native species have been identified in the impacted reaches. The potential hydrological changes associated with the drought option are not expected to increase the spread of *Oncorhynchus mykiss,* Himalayan balsam (*Impatiens glandulifera*) and Japanese knotweed (*Fallopia japonica*). Based on the expected changes in hydrology and water quality there is a risk that freshwater shrimp *(Crangonyx pseudogracilis)* abundances will increase if the native freshwater gammarid populations decrease as a result of the drought option. However, the impact on gammarid populations is expected to be short-term and as such the proliferation of the invasive freshwater shrimp is expected to be short-term and of low magnitude.	Negligible adverse	None
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Small	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option would deliver 3.27 Ml/d, helping to maintain essential public water supplies during drought conditions, and therefore help maintain public health and well being.	None	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation	Small	Moderate	Short-term	Temporary	Low (adverse)	Medium (adverse)	The Ure increased abstraction supports a high density of salmon and is considered to be important for anglers. The impact of the drought option is assessed as minor and alternative angling locations would be available during the implementation of the drought.	Minor adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Small	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Minor beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Small	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	No impacts on material assets are anticipated. The option involves relatively minor modifications to abstraction volumes only and no significant changes to energy use, generated waste or sustainable designs are envisaged. The option will make use of existing infrastructure.	None	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote the sustainable management of natural resources have been identified for this option.	None	None
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	The River Ure watercourse was considered in the assessme. The risk of water quality deterioration is assessed as moderate for dissolved oxygen and total ammonia, and minor for phosphate, due to downstream locally consented discharges. Overall there is a moderate risk to water quality as a result of the drought option.	Moderate adverse	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Small	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	The drought option would lead to a moderate reduction in low flows (up to 9.8%), with associated reduction in wetted width and depth over a 10.6 km stretch of the River Ure. Moderate hydrological impacts are anticipated towards the impacted reaches. The drought option would not impact on the moderate to high flow regime in the receiving watercourses. Overall moderate impacts are anticipated towards river habitats associated with the drought option.	Moderate adverse	None
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Small	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity. The drought option will be accompanied by water conservation campaigns to promote efficient use of water to protect the environment and safeguard supplies. Water availability is at least 50% in the zone of influence of the drought option.	None	Minor beneficial
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote long-term improvement in water efficiency have been identified for this option.	None	None
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	N/A	N/A	N/A	N/A	N/A	N/A	There are no land use changes associated with the implementation of the drought option. It is anticipated that there will be no impacts on geologically sensitive sites.	None	None
Air and Climate	6.1 To maintain and improve air quality.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option involves minor modifications to abstraction volumes and would therefore not result in any significant increases in emissions to atmosphere.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	Small	Moderate	Short-term	Temporary	Low (adverse)	Low (adverse)	Increase in abstraction volumes would be associated with a negligible change in energy use and therefore no significant increase in greenhouse gas emissions are envisaged.	Negligible adverse	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Small	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	Drought options are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought which may become more prevalent due to climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	N/A	N/A	N/A	N/A	N/A	N/A	Nearby ancient monuments and heritage sites are not water-dependent, and would not be impacted by the drought option.	None	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	Small	Moderate	Short-term	Temporary	Low (adverse)	Medium (adverse)	The Ripon Rowel Walk National trails runs alongside the River Ure and forms part of the Nidderdale AONB. However, the flow level reduction under drought conditions would not be perceptible.	Minor adverse	None

Drought Plan Option Name: Wharfe increased abstraction

Drought Plan Option Description: The drought option involves an increased abstraction volume from the River Wharfe where an abstraction permit is currently in operation. The option would provide a benefit of up to 22.70 Ml/d dependent on flow levels in the river.

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Large	Low	Short-term	Temporary	Medium (adverse)	Medium (adverse)	The drought option will impact wetted width, especially in shallow areas of the channel, potentially reducing habitat availability. The drought option is assessed as having a moderate impact on the following NERC species and notable species due to siltation of spawning gravels and exposure of habitat: Moderate risk for water vole, Atlantic salmon, brown trout, river lamprey and brook lamprey. Minor risk for European eel, barbel, bullhead and grayling. The risk of deterioration of WFD status regarding fish has been assessed as minor and moderate for invertebrates. The impact to River Wharfe, Otley & Mid Wharfedale/ Wetherby LWS is assessed as minor.	Moderate adverse	None
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	N/A	N/A	N/A	N/A	N/A	N/A	Invasive species utilise flow of the watercourse for dispersal. The implementation of the drought option will lead to a reduction in flow, and is therefore not anticipated to increase the spread of aquatic invasive non-native species.	None	None
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Large	Moderate	Short-term	Temporary	High (beneficial)	Medium (beneficial)	The drought option would provide 22.70 Ml/d helping to maintain essential public water supplies during drought conditions, and therefore help maintain public health and well-being.	None	Major beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Large	Moderate	Short-term	Temporary	Low (adverse)	Low (adverse)	The drought option would only cause a minor reduction in flow, therefore recreational activities such as angling are unlikely to be impacted.	Negligible adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Large	Moderate	Short-term	Temporary	High (beneficial)	Medium (beneficial)	The drought option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Major beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Large	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	No impacts on material assets are anticipated. The option involves relatively minor modifications to abstraction volumes only and no significant changes to energy use, generated waste or sustainable designs are envisaged. The option will make use of existing infrastructure.	None	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote the sustainable management of natural resources have been identified for this option.	None	None
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Large	Moderate	Short-term	Temporary	Medium (adverse)	Medium (adverse)	Impacts towards reaches of the River Wharfe were considered in the assessment. Water quality throughout the study area is assessed as moderate risk of deteriorating with regards to total ammonia and medium risk for dissolved oxygen and minor for phosphate. This risk may increase locally, downstream of consented water quality pressures. There are several water quality pressures within the reach, including one WwTW. Overall the risk to water quality is assessed as moderate.	Moderate adverse	None
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Large	Moderate	Short-term	Temporary	Moderate (adverse)	Medium (adverse)	The drought option would lead to a moderate reduction in low flows (up to 18%), with associated reduction in wetted width and depth over 68.4 km of the River Wharfe. The drought option would not impact on the moderate to high flow regime in the receiving watercourses. Impacted reaches are navigable from Tadcaster to confluence with Ouse, however the drought option unlikely to affect river levels on this stretch, most of which is tidal. Overall moderate impacts are anticipated towards river habitats associated with the drought option.	Moderate adverse	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Large	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option would contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity. The drought option will be accompanied by water conservation campaigns to promote efficient use of water to protect the environment and safeguard supplies. Water availability is at least 70% in the zone of influence of the drought option.	None	Minor beneficial
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote long-term improvement in water efficiency have been identified for this option.	None	None
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	Large	Moderate	Short-term	Temporary	N/A	N/A	There are no land use changes associated with the implementation of the drought option. It is anticipated that there will be no impacts on geologically sensitive sites.	None	None
Air and Climate	6.1 To maintain and improve air quality.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option involves minor modifications to abstraction volumes and would therefore not result in any significant increases in emissions to atmosphere.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	N/A	N/A	N/A	N/A	N/A	N/A	The increase in abstraction volumes would be associated with a negligible change in energy use and therefore no significant increase in greenhouse gas emissions are envisaged. The use of existing infrastructure will minimise increases in greenhouse gas emissions.	None	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Large	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	Drought options are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought which may become more prevalent due to climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	N/A	N/A	N/A	N/A	N/A	N/A	Nearby ancient monuments and heritage sites are not water-dependent, and would not be impacted by the drought option.	None	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	Large	Moderate	Short-term	Temporary	Low (adverse)	Medium (adverse)	A significant reduction in the level of the River Wharfe will have a visual impact on the Nidderdale AONB. However, there is limited access to the impacted reach with no national trails.	Minor adverse	None

Drought Plan Option Name: The River Wharfe annual abstraction increase

Drought Plan Option Description: The drought option involves an increase in the annual abstraction volume from the River Wharfe where an abstraction permit is currently in operation. This option will not change the daily licence limits. The benefit of the option will depend on when permission is granted, as it is related to the number of days left in the licensing year.

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Large	Low	Short-term	Temporary	Low (adverse)	Low (adverse)	The impact to one SSSI (a meandering section of the River Wharfe providing valuable invertebrate habitat) has been assessed as negligible. The drought option has been assessed as having a negligible impact on river flow and level. The drought option is assessed as having a negligible impact on the NERC species and notable species: brown trout, Atlantic salmon, white clawed crayfish, otter and water vole. The risk of deterioration of WFD status regarding invertebrates has been assessed as negligible.	Negligible adverse	None
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	N/A	N/A	N/A	N/A	N/A	N/A	Invasive species utilise flow of the watercourse for dispersal. The implementation of the drought option will lead to a negligible reduction in flow, and is therefore not anticipated to increase the spread of aquatic invasive non-native species.	None	None
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Large	Moderate	Short-term	Temporary	Medium (beneficial)	Medium (beneficial)	The drought option would help to maintain essential public water supplies during drought conditions, and therefore help maintain public health and well-being.	None	Moderate beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Large	Moderate	Short-term	Temporary	Low (adverse)	Low (adverse)	The drought option would only cause a negligible reduction in flow, therefore recreational activities such as angling will not be impacted.	None	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Large	Moderate	Short-term	Temporary	Medium (beneficial)	Medium (beneficial)	The drought option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Moderate beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Large	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	No impacts on material assets are anticipated. The option involves relatively minor modifications to abstraction volumes only and no significant changes to energy use, generated waste or sustainable designs are envisaged. The option will make use of existing infrastructure.	None	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote the sustainable management of natural resources have been identified for this option.	None	None
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Large	Moderate	Short-term	Temporary	Low (adverse)	Low (adverse)	The River Wharfe has been considered in the assessment. Water quality throughout the study area is assessed as negligible risk of deteriorating.	Negligible adverse	None
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Large	Moderate	Short-term	Temporary	Low (adverse)	Low (adverse)	The drought option is assessed as having a negligible impact on river flow. The reduction in daily average flows (assessed as up to 23.6Ml/d and would be confirmed at time of application) at moderate river flow conditions is no greater than a 5% effect, at high flows this is considerably less and there would be no impact on low flows. The drought permit would be implemented for a duration of up to 3 months during the period January to March.	Negligible adverse	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Large	Moderate	Short-term	Temporary	Low (adverse)	Low (beneficial)	The drought option would contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity. The drought option will be accompanied by water conservation campaigns to promote efficient use of water to protect the environment and safeguard supplies.	None	None
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote long-term improvement in water efficiency have been identified for this option.	None	None
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	Large	Moderate	Short-term	Temporary	N/A	N/A	There are no land use changes associated with the implementation of the drought option. It is anticipated that there will be no impacts on geologically sensitive sites.	None	None
Air and Climate	6.1 To maintain and improve air quality.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option involves minor modifications to abstraction volumes and would therefore not result in any significant increases in emissions to atmosphere.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	N/A	N/A	N/A	N/A	N/A	N/A	The increase in abstraction volumes would be associated with a negligible change in energy use and therefore no significant increase in greenhouse gas emissions are envisaged. The use of existing infrastructure will minimise increases in greenhouse gas emissions.	None	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Large	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	Drought options are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought which may become more prevalent due to climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	N/A	N/A	N/A	N/A	N/A	N/A	Nearby ancient monuments and heritage sites are not water-dependent, and would not be impacted by the drought option.	None	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	Large	Moderate	Short-term	Temporary	Low (adverse)	Low (adverse)	The drought option would result in a negligible reduction in the level of the River Wharfe, which will have a negligible visual impact on the Nidderdale AONB. However, there is limited access to the impacted reach with no national trails.	Negligible adverse	None

Drought Plan Option Name: Hull increased abstraction

Drought Plan Option Description: The drought option involves a lowering of the Hands Off Flow of an existing abstraction licence that is currently in operation on the Hull increased abstraction.
The option would provide a benefit of up to 20 Ml/d dependent on flow levels in the river. The option involves no contruction activities or material change in the operation of the abstraction facility.

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Large	Low	Short-term	Temporary	Medium (adverse)	Medium (adverse)	One SSSI provides habitat for breeding birds (reed bunting, reed and sedge warblers). However, the fen is not river-water fed, but is supplied by springs that emerge in the valley. Reductions in freshwater flow associated with this option are not considered to result in likely significant effects on the Humber Estuary SAC/SPA/SSSI. Impacts to two other SSSI/LWS's are also considered negligible. The drought option is assessed as having an impact on the following NERC and Notable species due to mortality as a result of water quality deterioration (oxygen stress, gill clogging): Moderate impact risk for brook lamprey, brown trout, European eel, barbel, grayling, bullhead and river lamprey. There is a moderate risk of deterioration of WFD status for fish and a minor risk of deterioration for invertebrates.	Moderate adverse	None
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	N/A	N/A	N/A	N/A	N/A	N/A	Invasive species utilise flow of the watercourse for dispersal. The drought option involves the lowering of a Hands Off Flow (HOF) which would lead to a minor reduction in flow, and is therefore not anticipated to increase the risk of the spread of invasive non-native species.	None	None
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Large	Moderate	Short-term	Temporary	High (beneficial)	Medium (beneficial)	The drought option would provide up to 20.45 Ml/d, helping to maintain essential public water supplies during drought conditions, and therefore help maintain public health and well being.	None	Major beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Large	Moderate	Short-term	Temporary	Low (adverse)	Low (adverse)	Angling is unlikely to be impacted by flow reduction, however, the water quality implications of reduced flow on estuarine flushing (of one STW effluent plume) on fisheries may become apparent.	Negligible adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Large	Moderate	Short-term	Temporary	High (beneficial)	Medium (beneficial)	The drought option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Major beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Large	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	No adverse impacts on material assets are anticipated. The drought option involves the lowering of a HOF with no change in existing abstraction quantities and no changes to energy use, generated waste or sustainable designs are envisaged. The option will make use of existing infrastructure.	None	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote the sustainable management of natural resources have been identified for this option.	None	None
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Large	Moderate	Short-term	Temporary	High (adverse)	High (adverse)	The River Hull was considered in the assessment. The risk to water quality deterioration has been assessed as high related to potential dissolved oxygen sag and ammonia toxicity near the vicinity of a WwTW. Overall, moderate adverse effects are anticipated towards river and estuarine habitats.	Major adverse	None
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Large	Moderate	Short-term	Temporary	Medium (adverse)	Low (adverse)	The drought option would lead to a major reduction in low flows (up to 45.8%), with associated reduction in wetted width and depth over 0.1 km of the River Hull. There would also be an uncertain reduction in fresh water inflow in the tidal zone of the river, spanning 30km. The drought option will not impact on the moderate to high flow regime in receiving watercourses. The watercourse is navigable however impacts on navigation would be minimal. Overall, minor to moderate impacts are anticipated towards river habitats with the implementation of the drought option.	Moderate adverse	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Large	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity. The drought option will be accompanied by water conservation campaigns to promote efficient use of water to protect the environment and safeguard supplies. Water availability is at least 70% in the zone of influence of the drought option.	None	Minor beneficial
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote long-term improvement in water efficiency have been identified for this option.	None	None
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	N/A	N/A	N/A	N/A	N/A	N/A	There are no land use changes associated with the implementation of the drought option. It is anticipated that there will be no impacts on geologically sensitive sites.	None	None
Air and Climate	6.1 To maintain and improve air quality.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option involves the lowering of the HOF of the abstraction, and would not result in any significant increases in emissions to atmosphere.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option will not result in an increase in energy use, therefore, no changes to greenhouse gas emissions are envisaged. The use of existing infrastructure will minimise increases in greenhouse gas emissions.	None	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Large	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	Drought options are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought, which may become more prevalent due to climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	N/A	N/A	N/A	N/A	N/A	N/A	Nearby ancient monuments and heritage sites are not water-dependent and would not be impacted by the drought option.	None	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	N/A	N/A	N/A	N/A	N/A	N/A	There are no designated landscapes in the immediate vicinity.	None	None

Drought Plan Option Name: The River Derwent increased abstraction

Drought Plan Option Description: The drought option involves an increase in the abstraction volume in a licensing year from the River Derwent River Derwent Site 1, with an equivalent reduction in the annual licence volume permitted to be taken from an upstream abstraction point on the River Derwent Site 2.

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Large	Low	Short-term	Temporary	Low (adverse)	Low (adverse)	HRA screening has concluded that the drought permit will not result in likely significant effects on the designated features of any SAC/SSSI or NERC habitats.	Negligible adverse	None
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	N/A	N/A	N/A	N/A	N/A	N/A	Invasive species utilise flow of the watercourse for dispersal. The implementation of the drought option will lead to a reduction in flow, and is therefore not anticipated to increase the spread of aquatic invasive non-native species.	None	None
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Large	Moderate	Short-term	Temporary	Medium (beneficial)	Medium (beneficial)	The drought option would help maintain essential public water supplies during drought conditions, and therefore help maintain public health and well-being.	None	Moderate beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Large	Moderate	Short-term	Temporary	Medium (benefical)	Low (beneficial)	The drought option would cause a minor increase in flows, therefore minor beneficial effects are anticipated towards recreational activities such as angling.	None	Minor beneficial
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Large	Moderate	Short-term	Temporary	Medium (beneficial)	Medium (beneficial)	The drought option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Moderate beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Large	Moderate	Short-term	Temporary	Low (adverse)	Medium (beneficial)	No impacts on material assets are anticipated. The option involves relatively minor modifications to abstraction volumes only and no significant changes to energy use, generated waste or sustainable designs are envisaged. The option will make use of existing infrastructure.	None	Minor beneficial
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote the sustainable management of natural resources have been identified for this option.	None	None
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Large	Moderate	Short-term	Temporary	Low (adverse)	Low (adverse)	The River Derwent- has been included in this assessment. Water quality throughout the study area is assessed as negligible risk of deteriorating.	Negligible adverse	None
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Medium	Moderate	Short-term	Temporary	Low (adverse)	Low (adverse)	The drought permit application for the River Derwent is to increase the annual abstraction limit at River Derwent Site 1 by 2,300 Ml/year, and to correspondingly decrease the annual abstraction limit at River Derwent Site 2 by 2,300 Ml/year. The daily limits at each site, and all aggregate volumes are unchanged. The hydrological effects of the drought permit are considered probable and would be an increase in River Derwent flows downstream of River Derwent Site 2 intake as far as the River Derwent Site 1 intake (up to 9.9%), for a 23.9 km stretch, with the daily flow unaffected downstream of River Derwent Site 1 intake. Overall, the magnitude of the effect on flows is considered indiscernible in the context of the River Wharfe's daily variability and all hydrological impacts are considered reversible. The drought permit is assessed as with negligible effect on the hydrology of the River Derwent throughout the study area.	Negligible adverse	None
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Large	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option would provide up to 20Ml/d which would contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity. The drought option will be accompanied by water conservation campaigns to promote efficient use of water to protect the environment and safeguard supplies.	None	Minor beneficial

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote long-term improvement in water efficiency have been identified for this option.	None	None
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	Large	Moderate	Short-term	Temporary	N/A	N/A	There are no land use changes associated with the implementation of the drought option. It is anticipated that there will be no impacts on geologically sensitive sites.	None	None
Air and Climate	6.1 To maintain and improve air quality.	N/A	N/A	N/A	N/A	N/A	N/A	The drought option involves minor modifications to abstraction volumes and would therefore not result in any significant increases in emissions to atmosphere.	None	None
Air and climate	6.2 To reduce greenhouse gas emissions.	N/A	N/A	N/A	N/A	N/A	N/A	The increase in abstraction volumes would be associated with a negligible change in energy use and therefore no significant increase in greenhouse gas emissions are envisaged. The use of existing infrastructure will minimise increases in greenhouse gas emissions.	None	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Large	Moderate	Short-term	Temporary	Low (beneficial)	Medium (beneficial)	Drought options are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought which may become more prevalent due to climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	N/A	N/A	N/A	N/A	N/A	N/A	Nearby ancient monuments and heritage sites are not water-dependent, and would not be impacted by the drought option.	None	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	Large	Moderate	Short-term	Temporary	Low (adverse)	Low (adverse)	Overall, the magnitude of the effect on flows is considered indiscernible in the context of the River Wharfe's daily variability. Therefore, visual impacts on the areas of nature conservation in the vicinity of the River Wharfe are considered negligible.	Negligible adverse	None

Drought Plan Option Name: (additional abstraction from and transfers) North West reservoir abstraction

Drought Plan Option Description: The drought option would involve increasing abstraction from North West Area Reservoir 9 to provide a benefit of up to 3.0 Ml/d. Water abstracted from the reservoir would be transferred via a temporary pipeline to the an aqueduct for subsequent treatment at Bradford WTW 1

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Small	Moderate	Short term	Temporary	Low (adverse)	Low (adverse)	The extent of construction required for a temporary pipeline from the reservoir to the an aqueduct is currently unknown, however, there are no nearby designated sites. During operation the hydrological changes on river flow level would be negligible, so there would be a negligible impact on habitats and NERC species.	Negligible adverse	None
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	Small	Moderate	Short term	Permanent	Low (adverse)	Medium (adverse)	During construction of a the new pipeline, there is potential for the spread of terrestrial invasive species. However, with best practice mitigation measures (e.g. washing construction vehicles), the spread of invasive species would be minimised.	Minor adverse	
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Small	Moderate	Short term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option would deliver 3.0 Ml/d helping to maintain essential public water supplies during drought conditions and therefore help maintain public health.	None	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Small	Moderate	Short term	Temporary	Low (adverse)	Medium (adverse)	The scheme may affect access to open spaces through construction of temporary assets, and have a minor impact on informal recreation activities. During the operational phase it is anticipated that there would be no impacts on recreational activities.	Minor adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Small	Moderate	Short term	Temporary	Low (beneficial)	Medium (beneficial)	Implementation of the drought option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Minor beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Small	Moderate	Short term	Temporary	Low (adverse)	Medium (adverse)	Resources for construction of additional components to the scheme will be sourced locally where possible. Once operational, there will be a minor increase in energy consumption.	Minor adverse	None
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote the sustainable management of natural resources have been identified for this option.	None	None
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Small	Low	Short term	Temporary	Low (adverse)	Medium (adverse)	There are known water quality issues within the reservoir (reservoir stratification, algal blooms etc.) and the operation of this drought option could cause further water quality impacts, however, this is uncertain.	Minor adverse	None
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	N/a	Moderate	Short term	Temporary	Low (adverse)	Medium (adverse)	The operation of the drought option will cause potential minor changes to the water level of North West Area Reservoir 9 and result in a loss of flow to the downstream watercourse (Silesden Beck) due to the abstraction.	Minor adverse	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Small	Moderate	Short term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will be accompanied by water conservation campaigns to promote efficient use of water to protect the environment and safeguard supplies. Water availability is at least 70% in the zone of influence of the drought option.	None	Minor beneficial
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote long-term improvement in water efficiency have been identified for this option.	None	None
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	Small	Moderate	Short term	Temporary	Low (adverse)	Low (adverse)	The potential effects on land-use associated with the construction work are considered small scale, temporary and reversible. The scheme will not affect any sites designated for geological interest.	Negligible adverse	None
Air and Climate	6.1 To maintain and improve air quality.	Small	Moderate	Short term	Temporary	Low (adverse)	Low (adverse)	The increased energy use required during the operation of the option would be associated with negligible adverse effects on air quality.	Negligible adverse	None
Air and climate	6.2 To reduce greenhouse gas emissions.	Small	Moderate	Short term	Temporary	Low (adverse)	Medium (adverse)	The increased energy use would also be associated with negligible increases in greenhouse gas emissions.	Minor adverse	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Small	Moderate	Short term	Temporary	Low (beneficial)	Medium (beneficial)	Drought plan options are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought which may become more prevalent due to climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	N/A	N/A	N/A	N/A	N/A	N/A	There are no heritage assets or sites of archaeological importance in proximity to the zone of influence of the option.	None	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	Small	Moderate	Short term	Temporary	Low (adverse)	Medium (adverse)	A significant reduction in the level of North West Area Reservoir 9 would have a visual impact on the landscape setting of Millennium Way National Trail. However, the reduced level of the reservoir would be short-term and temporary.	Minor adverse	None

Drought Plan Option Name: East Yorkshire Groundwater Option 2

Drought Plan Option Description: This drought option would involve relocating a borehole to enable the use of the existing abstration licence (6Ml/d annual average, 9Ml/d daily maximum). This option would only be implemented in the occurrence of a three-year drought.

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Small	Moderate	Short term	Temporary	Medium (adverse)	Medium (adverse)	The HRA screening of this option assessed the potential impact on two SAC's . Hydrological impacts of the drought option are unlikely to influence these sites. Impacts resulting from this are unlikely to lead to significant effects on qualifying features, including NERC species (birds, fish) and notable bird species, as reductions in the groundwater levels are unlikely to directly lead to measurable reductions. The site is sufficiently distanced from proposed infrastructure for direct and in-direct impacts to be unlikely. HRA screening also assessed potential impacts on the a further SAC, SPA and Ramsar site. Abstraction would be within the existing licence limits. The small scale of the abstraction would be unlikely to affect flows in the River Derwent. The site is sufficiently distanced from proposed infrastructure for direct and in-direct impacts to be unlikely. The new borehole would be located next to an existing reservoir, which is surrounded by Ancient Woodland, a lowland acid oak woodland with ornithological interest. There is existing access to the site. The construction of the new borehole would be likely to cause temporary impacts related to noise, vibration and dust; however, it is expected that these impacts on the neighbouring woodland would be mitigated through best practice construction and timing the construction to avoid adverse impacts on bird populations. The exact route of the pipework connecting the new borehole to the water treatment works and reservoir is unknown and there is a risk of adverse impact on the ancient woodland through disturbance to root structure during excavation activities. At this stage a moderate adverse effect has been assessed pending further design details and method statements to demonstrate whether mitigation measures can avoid impact on the ancient woodland. Once operational, the scale of abstraction is relatively small in comparison to overall abstraction from the aquifer, but the abstraction is from the Wharfe and Lower Ouse WFD groundwater body which is classified as having a poor impact on surface waters. The additional actual abstraction is assessed as having the potential for no greater than minor adverse effects on aquatic flora and fauna.	Moderate adverse	None
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	Small	Moderate	Long term	Permenant	Low (adverse)	Low (adverse)	There is a small risk of introducing/spreading INNS during construction, mitigation measures will be implemented to avoid this. Invasive species on site will be identified and removed or treated in advance of construction works. Operation of the scheme is not expected to introduce or spread INNS, as it would not involve movement of people or resources (e.g. water) between sites or catchments.	Negligible adverse	None
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Small	Moderate	Short term	Temporary	Low (adverse) Low (beneficial)	Medium (adverse) Medium (beneficial)	The drought option would deliver up to 9.0 Ml/d helping to maintain essential public water supplies during drought conditions and therefore help maintain public health. The construction of the new borehole and pipeline may have a temporary, minor, adverse impact upon residents located nearby (population density 138/km2), particularly residents in close proximity to the construction site, due to nuisance from noise, dust and vibration.	Minor adverse	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation	Small	Moderate	Short term	Temporary	Low (adverse)	Medium (adverse)	The construction work may temporarily impact those who use the woods for informal recreation and ornithology through disturbance from noise, dust and vibration. The construction activity may also have some temporary impact upon recreation due to potential disruption to public paths and rights of access. These effects would be mitigated as far as possible through best practice construction measures. Once operational, there is unlikely to be any permanent effects on recreation, human health or access to the environment.	Minor adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Small	Moderate	Short term	Temporary	Low (beneficial)	Medium (beneficial)	Implementation of the drought option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Minor beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Small	Moderate	Short term	Temporary	Low (adverse)	Low (adverse)	Scheme construction will require some use of materials at a scale consistent with the size of the scheme (new pumping station and pipeline). However the scheme will make good use of a large part of existing infrastructure. Once operational, minimal material inputs will be required, other than for regular maintenance but some minor additional resources will be needed for treatment chemicals and power for pumping.	Negligible adverse	None
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	Small	Moderate	Long-term	Permanent	Low (beneficial)	Medium (beneficial)	The drought option would make greater use of the existing abstraction licence (6Ml/d annual average, 9Ml/d daily maximum) and improving the existing efficiency of the management of the water resources need to maintain essential public water supplies during drought conditions.	None	Minor beneficial
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Small	Low	Short term	Temporary	Low (adverse)	Medium (adverse)	Impacts towards the Selby Dam were considered in the assessment. Pollution risks from construction activity should be mitigated by best practice methods. There may be a negligible adverse impact on river water quality at low flows due to the potential impact of reduction in base flow from the aquifer as a result of the increased abstraction, however this needs to be assessed further as the hydrological connectivity is unknown and consequently, the risk of deterioration of WFD status (fish and macroinvertebrates) is uncertain. Downstream impacts to the River Ouse are unlikely given the small abstraction compared to flows within the River Ouse.	Minor adverse	None
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Small	Low	Short term	Temporary	Medium (adverse)	Medium (adverse)	The abstraction is from the Wharfe and Lower Ouse and Sherwood Sandstone WFD groundwater body which is classified as having poor quantitative status due to depressed groundwater levels. Although abstraction would be within existing licence limits, the increase in actual abstraction could have a moderate adverse effect, although not sufficient to lead to deterioration in WFD status to "bad". The previous abstraction at Brayton North abstracted the same quantities as this proposed scheme. therefore it is unlikely to affect the water balance on a groundwater body scale, however further investigation is required.	Moderate adverse	None
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Small	Low	Short term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will be accompanied by water conservation campaigns to promote efficient use of water to protect the environment and safeguard supplies.	None	Minor beneficial
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote long-term improvement in water efficiency have been identified for this option.	None	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	Small	Moderate	Long-term	Temporary	Low (adverse) Low (beneficial)	Low (adverse) Low (beneficial)	Construction of the new borehole and pipeline will have a short term, temporary but negligible effect on the quality and quantity of the soils in the area. Given the small-scale of the borehole, no long-term adverse effects are anticipated on soils, geology or overall land-use management.	Minor adverse	None
Air and Climate	6.1 To maintain and improve air quality.	Small	Moderate	Short term	Temporary	Low (adverse)	Medium (adverse)	Construction work and vehicle movements associated with construction phase will give rise to temporary air pollutant emissions and dust over the short term (6 months), but these will be minimised through best construction practices. There are no AQMAs within proximity of the scheme. Operation of the scheme will require a small increase in energy consumption associated with the increased groundwater pumping and additional water treatment. Air emissions would be negligible as energy would be supplied from the grid so would not be local.	Negligible adverse	None
Air and climate	6.2 To reduce greenhouse gas emissions.	Small	Moderate	Short term	Temporary	Low (adverse)	Medium (adverse)	Construction work and vehicle movements associated with construction phase will give rise to temporary GHG emissions over the short term (6 months), but these will be minimised through best construction practices. Construction is anticipated to result in emission of 1,269t/CO2. The increased energy consumption during operation would be associated with a negligible increase in GHG emissions	Minor adverse	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Small	Moderate	Short term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will be accompanied by water conservation campaigns to promote efficient use of water to protect the environment and safeguard supplies.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Small	Moderate	Long-term	Temporary	Low (adverse)	Low (adverse)	There are no known water dependent cultural heritage assets that might be affected by the potential small reduction in base flow due to the abstraction. Construction work has the potential to disturb unknown buried assets, however this would be further evaluated by desk studies and other investigations prior to construction. A watching brief, surveys and investigation may be implemented during construction if required to reduce the risk of adverse impact to any unknown heritage assets.	Negligible adverse	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	Small	Moderate	Short term	Temporary	Low (adverse)	Low (adverse)	There are no designated landscapes in proximity to the scheme. There may be small scale, temporary adverse effects locally on visual amenity due to construction activity within a woodland setting. However given the small-scale of the borehole, permanent visual impact is unlikely and would be mitigated by screening and design measures. Operation of the scheme is assessed would have no greater than a negligible impact on landscape and visual amenity arising from the potential small reduction in base flow due to the abstraction.	Negligible adverse	None

Drought Plan Option Name: North Yorkshire Groundwater increased abstraction

Drought Plan Option Description: The drought option relates to an increased abstraction from the North Yorkshire Groundwater increased abstraction in which, during a drought abstraction would increase from 8Ml/d (annual average) and 12.5Ml/d (daily maximum). No additional construction is required.

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species) and consider adaptability to climate change.	Small	Moderate	Short term	Temporary	Low (adverse)	Medium (adverse)	Stage 1 HRA screening has indicated that likely significant effects on a SAC could not be ruled out as a result of the implementation of the North Yorkshire Groundwater Increased Abstraction scheme. HRA Guidance indicates that the Plan making authority (in this case Yorkshire Water) shall adopt, or otherwise give effect to the Plan, only after having ascertained that it will not adversely affect the integrity of a European site. As such, a Stage 2 HRA was required to determine whether the implementation of the North Yorkshire Groundwater Increased Abstraction Scheme could impact on the conservation objectives or the qualifying features of the SAC. The units of the SAC most likely to be affected by the scheme are located between 4.9km and 6.7km from the scheme location. Analysis of geological and borehole data indicate that the SACs are above the groundwater water table level and that the SACs are designated for non-water dependant features. As such, it is concluded that abstraction from the proposed scheme will not have a significant adverse effect on the qualifying features of the Meadows SAC. There is no construction associated with this option. No operational impacts on NERC species are envisaged due to the lack of hydraulic connectivity between the groundwater and surface water, however there is some residual uncertainty in relation to the impacts of increased groundwater abstraction from the boreholes. The scheme is in proximity to one SSSI, which is a water dependent site situated downstream on the River Swale flood plain. The site is premoninantly supported by surface water flows and river sands and gravels – it is not in direct hydraulic connectivity. Based on available data it is concluded that the drought option will have negligible impacts on the baseflow contributions to the River Swale, which supports the SSSI.	Negligible adverse	None
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	N/A	N/A	N/A	N/A	N/A	N/A	No impacts on invasive species are envisaged during operation of this drought option.	None	None
Population and human health	2.1 To protect and improve health and well-being and reduce inequalities	Small	Moderate	Short term	Temporary	Medium (beneficial)	Medium (beneficial)	The drought option would deliver an additional 2 Ml/d helping to maintain essential public water supplies during drought conditions and therefore help maintain public health.	None	Moderate beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	N/A	N/A	N/A	N/A	N/A	N/A	There is no construction associated with this option. There are no recreational areas nearby and no national trails, therefore impacts are not expected during the implementation of the drought option.	None	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Small	Moderate	Short term	Temporary	Medium (beneficial)	Medium (beneficial)	Implementation of the drought option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity with no permanent adverse effects on the environment.	None	Moderate beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Small	Moderate	Short term	Temporary	Low (adverse)	Medium (adverse)	There is no construction associated with this option. Once operational, minimal material inputs will be required, other than for regular maintenance but some minor additional resources will be needed for treatment chemicals and power for pumping.	Minor adverse	None
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Small	Moderate	Short term	Temporary	Low (adverse)	Low (adverse)	There may be a negligible adverse impact on river water quality at low flows due to the potential impact of a minor reduction in baseflow from the Millstone Grit and Carboniferous Limestone aquifer as a result of the increased abstraction, however this needs to be assessed further.	Negligible adverse	None
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Small	Moderate	Short term	Temporary	Low (adverse)	Low (adverse)	There may be a local, negligible impact on baseflow to the River Swale from the Millstone Grit and Carboniferous Limestone aquifer as a result of the increased abstraction. This would require further investigation.	Negligible adverse	None
Water	4.3 To ensure appropriate and sustainable management of water supplies whilst protecting ecosystem functions that rely on water resources including contributing to the achievement of WFD objectives	Small	Moderate	Short term	Temporary	Low (beneficial)	High (beneficial)	The drought option will be accompanied by water conservation campaigns to promote efficient use of water to protect the environment and safeguard supplies. Water availability is at least 50% in the zone of influence of the drought option.	None	Moderate beneficial
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	N/A	N/A	N/A	N/A	N/A	N/A	There is no additional land take or excavations or construction associated with the scheme, therefore no impacts are anticipated.	None	None
Air and Climate	6.1 To maintain and improve air quality.	Small	Moderate	Short term	Temporary	Low (adverse)	Medium (adverse)	The small increase in energy consumption would be associated with minor adverse effects on air quality.	Minor adverse	None
Air and climate	6.2 To reduce greenhouse gas emissions.	Small	Moderate	Short term	Temporary	Low (adverse)	Medium (adverse)	The increase in energy consumption would also be associated with a minor increase in greenhouse gas emissions.	Minor adverse	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Small	Moderate	Short term	Temporary	Medium (beneficial)	Medium (beneficial)	Drought options are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought which may become more prevalent due to climate change.	None	Moderate beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	N/A	N/A	N/A	N/A	N/A	N/A	There are no listed or designated assets within proximity to the scheme. There are no known water dependent heritage assets that might be affected by the potential small reduction in baseflow due to the abstraction.	None	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	N/A	N/A	N/A	N/A	N/A	N/A	There are no landscape designations in proximity to the scheme.	None	None

Drought Plan Option Name: Tees - Swale transfer

Drought Plan Option Description: This drought option would transfer water from the River Tees and/or the River Tyne (via the River Tees) to an existing abstraction point on the River Ouse .
Transfers from the Tyne to the Tees would only occur when there is insufficient water available from resources in the Tees catchment. YWSL identify that the option would only be implemented during a water resources drought as a last resort.
The likelihood of its implementation is further reduced by a likely lead-in period of 18 months due to the requirement for construction of a 15.7km pipeline. The transfer would require construction of a pipeline to extend an already constructed but as yet unused pipeline.
Water would then be transferred using the river system of the Rivers Swale and Ouse to the existing abstraction on the Ouse. The drought option would deliver up to 42Ml/d.

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species) and consider adaptability to climate change.	Large	Moderate	Short term	Permanent	Medium (adverse)	Medium (adverse)	Preliminary environmental assessment and the HRA highlighted potential, but uncertain adverse effects on several designated European sites, SSSIs and NERC species (including impacts of supporting transfer flows from Cow Green Reservoir and/or Kielder Water via the North Tyne to Tees tunnel). - Tyne Waters meet SSSI in Reach 1 (Tyne): impacts on flooding of site are assessed as minor, but some uncertainty remains. - In Reach 2A (Tees) the impact on North Pennine Moors SPA, Moor House-Upper Teesdale SAC and Upper Teesdale SSSI in the Cow Green/Upper River Tees area is assessed as negligible impact: the Tees abstraction is unlikely to adversely affect Cow Green water levels and is within current licensed limits. - Impacts on Appleby Fells SSSI are assessed as negligible due to negligible impact on Cow Green. - Reach 2B (Tees): impact on Hell Kettles SSSI assessed as negligible given the hydrological characteristics of the site. - Negligible impact on NERC species (Fish) in Reach 1A (Tyne) as risk of entrainment due to abstraction can be mitigated. - The impacts in the Tees catchments on NERC fish species are assessed as minor in relation to changes in water chemistry, disease transfer risks, invasive species migration, temperature and flow/level changes due to River North Tyne transfers. - Adverse effects in the Swale catchment on NERC fish species are assessed as moderate due to risk of mortality or harm if there was a transfer of a notifiable fish disease from the Tees. - Uncertain effects in the Swale catchment regarding NERC species Freshwater White – clawed Crayfish. - Uncertain construction impacts on NERC Species, including otter, great crested newt, badger and common reptiles. - The sensitivity of the WFD status is assessed as minor.	Moderate adverse	None
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	Large	Moderate	Short term	Permanent	Medium (adverse)	High (adverse)	There is uncertainty surrounding the likely effect of flow and level impacts upon existing invasive species populations and their ability to distribute further within the watercourse. However, the minor hydrological impact is not considered likely to significantly impact upon the species as hydrological conditions and water levels are only subject to slight change. There is uncertainty as to the scheme's overall potential impact regarding catchment river transfers and INNS risks. For example, the transmission of crayfish plague. Without effective mitigation this is considered of major concern. Uncertainty also surrounds the impact of construction on the spread of invasive species such as Japanese knotweed.	Major adverse	
Population and human health	2.1 To protect and improve health and well-being and reduce inequalities	Large	Moderate	Short term	Temporary	High (beneficial)	Medium (adverse)	The drought option would deliver 42 Ml/d helping to maintain essential public water supplies during drought conditions and therefore help maintain public health.	None	Major beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Large	Moderate	Short term	Temporary	Low (adverse)	Medium (adverse)	The scheme will not affect access to open spaces but may have a minor impact on informal recreational activities. The Teesdale Way runs along the River Swale, construction may impact access, however during the operation no issues are anticipated. Navigation would not be affected.	Minor adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Large	Moderate	Short term	Temporary	High (beneficial)	Medium (adverse)	The option would contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Major beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Large	Moderate	Short term	Temporary	Medium (adverse)	Medium (adverse)	The scheme's construction (15.7 km pipeline) would involve a medium scale consumption of resources and once operational, additional chemicals and energy would be required for water treatment and distribution. To mitigate the adverse effects, resources for construction would be sourced locally where possible.	Moderate adverse	None
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Large	Moderate	Short term	Temporary	Low (adverse)	Low (adverse)	Impacts towards reaches of the River Tees, River Swale, River Tyne and River Ouse were considered in the assessment. Water quality impact risk has been assessed as negligible as the drought option would not lower river flows (and will increase flows in some reaches). Negligible impacts associated with reduced dilution of effluent can be expected.	Negligible adverse	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Autumn/ Winter 2016	Moderate	Short term	Temporary	Low (adverse)	Medium (adverse)	The drought option involves transfer of surplus licensed water, and does not require abstraction in excess of current licensed volumes for the River Ouse, River Tees or the River Tyne. Flows in the River Tees will be supported by releases from Cow Green Reservoir and those from the River Tyne by releases from Kielder Water. The transfers may result in amelioration of drought impacts in reaches where flows are increased, which may be important ecologically. However, flow releases and transfers do lead to some alterations to the natural flow regime, although well within the normal flow ranges of each river. The change in wetted width and depth is therefore expected to not vary outside the natural regime of the river. Negligible to minor hydrological impacts (increase of up to 53% in flows) were identified for the River Tyne (72 km), River Tees (125 km) and River Ouse (17 km) and major impacts (increase of 71% in flows) for the River Swale.	Minor adverse	None
Water	4.3 To ensure appropriate and sustainable management of water supplies whilst protecting ecosystem functions that rely on water resources including contributing to the achievement of WFD objectives	Large	Moderate	Short term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will be accompanied by water conservation campaigns to promote efficient use of water to protect the environment and safeguard supplies. Water availability is at least 50% in the zone of influence of the drought option.	None	Minor beneficial
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	Large	Moderate	Short term	Temporary	Low (adverse)	Low (adverse)	There would be no permanent land use changes associated with the construction of the pipeline associated with this option. No impacts on geologically important sites are anticipated. Impacts on soils during construction would be negligible as they would be ameliorated through best practice construction techniques and appropriate mitigation measures.	Negligible adverse	None
Air and Climate	6.1 To maintain and improve air quality.	Large	Moderate	Short term	Permanent	Low (adverse)	Medium (adverse)	The construction phase of the new pipeline would give rise to dust emissions that could impact nearby sensitive environmental receptors. However, these effects would be minimised through best practice construction methods, as such, the residual effects would only be minor adverse. During the operational phase of the scheme, there would be increased energy use associated with pumping and treatment processes. There would be a proportional increase in emissions to atmosphere, however, energy would be supplied from the grid so emissions would not be localised.	Minor adverse	None
Air and climate	6.2 To reduce greenhouse gas emissions.	Large	Moderate	Short term	Permanent	Medium (adverse)	Medium (adverse)	The construction phase of the new pipeline and the pumping and treatment processes involved in the operational phase would be associated with an increase in energy use. This would result in moderate adverse effects associated with the increase in greenhouse gas emissions.	Moderate adverse	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Large	Moderate	Short term	Permanent	Low (beneficial)	Medium (adverse)	Supply-side options are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought which may become more prevalent due to climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Large	Moderate	Short term	Temporary	Low (adverse)	Low (adverse)	No known water-dependent cultural heritage or archaeology sites are located within or adjacent to the impacted reaches. Impacts on other cultural heritage or archaeology sites due to construction or operation of the scheme are assessed as negligible.	Negligible adverse	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	Large	Moderate	Short term	Temporary	Low (adverse)	Medium (adverse)	Construction of pipelines and outfall structure and re-commissioning of assets will have a temporary minor adverse impact on visual amenity, but permanent impacts assessed as negligible with appropriate design and screening where appropriate. Potential minor adverse impact on water levels in Cow Green and Kielder Water reservoirs due to additional abstraction compared to normal. Potential minor beneficial impact on river reaches where flows are increased by transfers.	Minor adverse	None

Drought Plan Option Name: Tees-Swale (direct pipeline)

Drought Plan Option Description: The scheme comprises a complete pipeline connection between the River Tees and the River Derwent Water Treatment Works 1.
A new pipeline and inline pumping station will connect the existing pipeline to a high point and a new break pressure tank at the Yorkshire Water
site YWSL Site. From here the water will flow by gravity via a new pipeline, from where it will join Ouse pumping station to River Derwent Water Treatment Works 1 raw water pipeline.
This option utilises the existing Northumbrian Water Ltd River Tees intake and pumping station.
The option would deliver a deployable output of up to 40 Ml/d.

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Medium	Moderate	Medium-term	Permanent	Low (adverse)	Medium (adverse)	Preliminary environmental assessment and HRA of the scheme construction and operation has highlighted a number of potential, but uncertain adverse effects on several designated European sites, SSSIs and NERC species (including impacts of supporting transfer flows from Cow Green Reservoir and/or Kielder Water via the North Tyne to Tees tunnel). -Tyne Waters meet SSSI in Reach 1 (Tyne): impacts on flooding of site are assessed unlikely, however further investigation is required. - In Reach 2A (Tees) the impact on North Pennine Moors SPA, Moor House-Upper Teesdale SAC and Upper Teesdale SSSI in the Cow Green/Upper River Tees area is assessed as negligible impact: the Tees abstraction is unlikely to adversely affect Cow Green water levels and is within current licensed limits. Impacts of licence were assessed as part of Review of Consents under Habitats Directive. - Impacts on Appleby Fells SSSI are assessed as negligible due to negligible impact on Cow Green Reservoir levels, however further investigation is needed. Reach 2B (Tees): Impact on Hell Kettles SSSI assessed as negligible given the hydrological characteristics of the site and that there will be no net impact on flows in the Tees. However, there may be construction impacts. The impacts in the Tees catchments on NERC fish species are assessed as minor in relation to changes in disease transfer risks, invasive species migration, due to River North Tyne transfers. There are uncertain construction impacts on NERC and notable species including Otter, Great Crested Newt, Bats, and common reptiles. The sensitivity of WFD status of the surrounding waterbodies is assessed as minor.	Minor adverse	None
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	Medium	Moderate	Medium-term	Permanent	Medium (adverse)	High (adverse)	The risk of the spread of signal crayfish and crayfish plague would be minor for the native white clawed crayfish (NERC species) in the Tees catchments as a result of flow and level changes. There is also the potential for other invasive species be spread during construction, however, this is currently uncertain.	Minor adverse	None
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Large	Moderate	Medium-term	Temporary	High (beneficial)	Medium (beneficial)	The drought option would provide 40 Ml/d, helping to maintain essential public water supplies during drought conditions and therefore help maintain public health.	None	Major beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Large	Moderate	Medium-term	Temporary	Low (adverse)	Low (adverse)	The scheme would not affect access to open spaces, but may have a negligible adverse impact on a golf course and caravan site in close proximity to the impacted reaches.	Negligible adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Large	Moderate	Medium-term	Temporary	High (beneficial)	Medium (beneficial)	The option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Major beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Large	Moderate	Medium-term	Temporary	High (adverse)	Medium (adverse)	The scheme's construction (+50 km pipeline) would involve a large scale consumption of resources and once operational, additional chemicals and energy would be required for water treatment and distribution. To mitigate the adverse effects, resources for construction would be sourced locally where possible.	Major adverse	None
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote the sustainable management of natural resources have been identified for this option.	None	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Medium	Moderate	Medium-term	Temporary	Low (adverse)	Medium (adverse)	The risk of water quality deterioration would be negligible as the drought option would not lower flows in the River Tees. Negligible impacts associated with reduced dilution of effluent can be expected. The sensitivity of the WFD status is assessed as minor.	Minor adverse	None
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Medium	Moderate	Medium-term	Temporary	Low (adverse)	Medium (adverse)	The drought option involves transfer of surplus licensed water and does not require abstraction in excess of current licensed volumes for the River Tees or the River Tyne. Flows in the River Tees will be supported by releases from Cow Green Reservoir and those from the River Tyne by releases from Kielder Green. The transfers may result in amelioration of drought impacts in reaches where flows are increased, which may be important ecologically. However, flow releases and transfers do lead to some alterations to the natural flow regime which could have minor adverse impacts on habitats.	Minor adverse	None
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Large	Moderate	Medium-term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will be accompanied by water conservation campaigns to promote efficient use of water to protect the environment and safeguard supplies.	None	Minor beneficial
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote long-term improvement in water efficiency have been identified for this option.	None	None
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	Large	Moderate	Medium-term	Temporary	Medium (adverse)	Medium (adverse)	The land required to accommodate the new pipeline and other features of the scheme would have moderate adverse effects on land use and it is anticipated that there would be no impact on geologically sensitive sites.	Moderate adverse	None
Air and Climate	6.1 To maintain and improve air quality.	Large	Moderate	Medium-term	Temporary	Low (adverse)	Medium (adverse)	The construction phase of the new pipeline would give rise to dust emissions that could impact nearby sensitive environmental receptors. However, these effects would be minimised through best practice construction methods, as such, the residual effects would only be minor adverse. During the operational phase of the scheme, there would be increased energy use associated with pumping and treatment processes. There would be a proportional increase in emissions to atmosphere, however, energy would be supplied from the grid so emissions would not be localised.	Minor adverse	None
Air and climate	6.2 To reduce greenhouse gas emissions.	Large	Moderate	Medium-term	Temporary	Medium (adverse)	Medium (adverse)	The construction phase of the new pipeline and the pumping and treatment processes involved in the operational phase would be associated with an increase in energy use. This would result in major adverse effects associated with the increase in greenhouse gas emissions.	Moderate adverse	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Large	Moderate	Medium-term	Temporary	Low (beneficial)	Medium (beneficial)	Drought plan options are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought conditions which may become more prevalent due to climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Large	Moderate	Medium-term	Temporary	Low (adverse)	Low (adverse)	No known water-dependent cultural heritage or archaeology sites are located within or adjacent to the impacted reaches. Potential impacts on other cultural heritage or archaeology sites due to the construction phase of the scheme would be negligible, as appropriate mitigation measures would ensure that assets are not impacted.	Negligible adverse	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	Large	Moderate	Medium-term	Temporary	Low (adverse)	Medium (adverse)	The construction of the pipeline would have a temporary minor adverse impact on visual amenity of the surrounding countryside, however, permanent impacts are considered to be negligible when accounting for appropriate design and visual screening. The impact on the natural flow regime in the impacted water courses would not be perceptible.	Minor adverse	None

Drought Plan Option Name: Aire abstraction

Drought Plan Option Description: Involves the construction and use of a new river abstraction on the Aire abstraction to provide up to 50Ml/d during any month of the year.

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Large	Medium	Short term	Temporary	Medium (adverse)	High (adverse)	Uncertainty surrounds the potential impact from construction on various NERC species near the new river abstraction (birds, great crested newts, bats, otter, water vole, common reptiles, badgers). The proposed pipeline passes within 4.5km of a SAC/SPA/SSSI. Potential impacts could arise during the construction phase as a result of noise and dust generation, but best practice design and construction methods should mitigate this risk. One SSSI is downstream of the proposed abstraction at Bingley and may be influenced by reduction in flows. Another SSSI is located within 1km of the proposed abstraction at Bingley. Impact risk has been assessed as minor assuming best practice methods deployed. There is the potential risk of major impact for aquatic NERC species during operation (brown trout, grayling, bullhead, European eel, white-clawed crayfish, barbel) in the reach immediately downstream of the intake, but reducing after 1km to minor impact risk with the increased flow contributions. Negligible impact 30km downstream. Operation of the scheme has been assessed as minor impact risk for one SSSI, and uncertain risk for two other SSSI's.	Major adverse	None
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	Large	Medium	Long term	Permanent	Low (adverse)	Medium (adverse)	Construction impacts on spread of invasive species are uncertain. It is assumed that appropriate measures (such as washing construction vehicles as they leave site etc.) will be taken to mitigate the spread of invasive species, however these species will be present along the construction route. Operational impacts are not anticipated to increase the spread of invasive species.	Minor adverse	None
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Large	Medium	Short term	Temporary	High (beneficial)	Medium (beneficial)	The drought option will help to maintain essential public water supplies during drought conditions and therefore help maintain public health / wellbeing by supplying up to 50Ml/d.	None	Major beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation	Large	Medium	Short term	Temporary	Low (adverse)	Low (adverse)	During construction, access to areas used for recreation may be reduced, however if best practice is followed, suitable diversions will be put in place. There are no national trails nearby. During operation the scheme will not affect access to open spaces but may have a minor impact on informal recreation activities such as fishing, however water levels will be naturally low during a drought.	Negligible adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Large	Medium	Short term	Temporary	High (beneficial)	Medium (beneficial)	Implementation of the drought option will contribute to the maintenance of supply reliability in drought conditions (50Ml/d), ensuring a resilient supply for customers and economic activity with no permanent adverse effects on the environment, if best practice is followed.	None	Major beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Large	Medium	Long term	Permanent	Medium (adverse)	Medium (adverse)	Resources for construction of additional components to the scheme will be sourced locally where possible. The scheme construction will require some use of materials at a scale consistent with the size of the new abstraction and some of the infrastructure is already in place. Once operational, there will be some additional energy and chemical use to pump and treat the water.	Moderate adverse	None
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote the sustainable management of natural resources have been identified for this option.	None	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Large	Medium	Short term	Temporary	Medium (adverse)	Medium (adverse)	During operation abstraction on the River Aire will reduce dilution of effluent due to a reduction in low flow regime. Two further consented significant water quality pressures (YW STW) are located in the impacted reach downstream, with a medium risk of WFD deterioration for total ammonia and oxygen. Abstraction under drought conditions will therefore likely have a moderate adverse effect on water quality.	Moderate adverse	None
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Large	Medium	Short term	Temporary	Medium (adverse)	Medium (adverse)	The drought option will lead to a major reduction in low flows (up to 52% in the summer and up to 39% in the winter) during operation. This will likely have impacts on wetted width and habitat availability. Major hydrological impacts are therefore anticipated in these impacted reaches. However, downstream of this, the impact is minor to moderate. The drought option will not impact on the moderate to high flow regime in the river.	Moderate adverse	None
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Large	Medium	Short term	Temporary	Low (adverse)	Medium (adverse)	The drought option will be accompanied by water conservation campaigns to promote efficient use of water to protect the environment and safeguard supplies. Water availability is at least 70% in the zone of influence of the drought option.	None	Minor beneficial
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote long-term improvement in water efficiency have been identified for this option.	None	None
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	Large	Medium	Short term	Temporary	Low (adverse)	Low (adverse)	Given that the pipeline would be buried, and construction of the pumping station, intake and fish screens would take place at existing sites, there would be negligible land use changes associated with this drought option and no impacts on geologically important sites are envisaged.	Negligible adverse	None
Air and Climate	6.1 To maintain and improve air quality.	Large	Medium	Short term	Permanent	Low (adverse)	Medium (adverse)	Construction work and vehicle movements associated with construction phase will give rise to air emissions and dust over the short term, these will be minimised through best construction practices. However, there will be small-scale carbon impact from construction of new assets. Increased pumping and treatment of water (replacing gravity reservoir supplies), so some additional energy use is envisaged during operation. There are no AQMA sites nearby.	Minor adverse	None
Air and climate	6.2 To reduce greenhouse gas emissions.	Large	Medium	Short term	Permanent	Low (adverse)	Medium (adverse)	Construction work and vehicle movements associated with construction phase will give rise to GHG emissions, these will be minimised through best construction practices. During operation, there will be increased pumping and treatment of water (replacing gravity reservoir supplies), so some additional greenhouse emission are envisaged during operation.	Minor adverse	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Large	Medium	Short term	Permanent	Low (beneficial)	Medium (beneficial)	Drought plan options are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought which may become more prevalent due to climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Large	Medium	Short term	Permanent	Low (adverse)	Low (adverse)	Several sites of archaeological and cultural heritage value are in proximity to impacted river reaches, including Saltaire World Heritage Site and Kirkstall Abbey, but there are no water-dependent sites. The pumping station and pipeline construction impacts would be contained to a small area. Best practice design and construction methods should be used to mitigate impacts. No operational impacts due to lower river flows are anticipated.	Negligible adverse	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	Large	Medium	Short term	Temporary	Low (adverse)	Medium (adverse)	There are some limited construction impacts on visual amenity anticipated in rural areas during river intake and pipeline construction, but this would be short-term. During operation there would be little above ground assets once construction completed. There are no AONB nearby.	Minor adverse	None

Drought Plan Option Name: Increased Ouse pumping capacity

Drought Plan Option Description: This scheme is to increase the pumping capacity at Ouse pumping station to 150 Ml/d by removing operational or infrastructure constraints.
The potential additional resource from the drought option is an average 10 Ml/d.

SEA topics and objectives		Assessment of option								
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Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Large	Medium	Short term	Permanent	Low (adverse)	Medium (adverse)	The proposed pipeline passes approximately 500m from one SSSI (which supports a range of wintering and passage wildfowl) and the potential construction impacts have been assessed as minor risk taking account of best practice construction methods. Uncertainty surrounds the potential impact from the pipeline construction on various NERC species (birds, great crested newts, bats, otter, water vole, common reptiles, badgers), however best construction methods such as constructing at certain times in the year (e.g., out of spawning season), or washing construction vehicles should mitigate many of these potential impacts. Impacts from operation of the scheme on the aquatic environment are assessed as negligible.	Minor adverse	None
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	Large	Medium	Short term	Permanent	Low (adverse)	Medium (adverse)	Invasive species (Japanese knotweed, giant hogweed & Himalayan balsam) are known to be present in the areas that would undergo construction. There is a risk of potentially spreading these species through the construction phase. It is assumed that appropriate mitigation measures will be undertaken to reduce the risk of the spread of invasive species. The operational phase of the scheme poses no risk to the spread of invasive species.	Minor adverse	None
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Large	Medium	Short term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option would deliver 10 Ml/d helping to maintain essential public water supplies during drought conditions and therefore help maintain public health.	None	Minor beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Large	Medium	Short term	Temporary	Low (adverse)	Low (adverse)	There are angling activities present in the River Ouse, however, the negligible flow reduction in the watercourse is not anticipated to have an impact on the quality of the angling.	Negligible adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Large	Medium	Short term	Temporary	Low (beneficial)	Medium (beneficial)	The option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Minor beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Large	Medium	Short term	Permanent	Medium (adverse)	Medium (adverse)	The scheme's construction would involve a medium scale consumption of resources and once operational additional chemicals and energy would be required for water treatment and distribution. To mitigate the adverse effects, resources for construction would be sourced locally where possible.	Moderate adverse	None

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Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote the sustainable management of natural resources have been identified for this option.	None	None
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Large	Medium	Short term	Temporary	Low (adverse)	Medium (adverse)	The increased abstraction would have a negligible impact on flow levels and therefore water quality. The additional flow can only be abstracted when river flows are above the prescribed limit set in the abstraction licence (or drought option if this has been granted under the drought option option). The WFD status is sensitive to flow level change.	Minor adverse	None
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Large	Medium	Short term	Temporary	Low (adverse)	Low (adverse)	The drought option would have a negligible impact on surface and groundwater flows in the impacted reaches (20.4 km), with hydrological impact on low flows of up to 6.1%.	Negligible adverse	None
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Large	Medium	Short term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will be accompanied by water conservation campaigns to promote efficient use of water to protect the environment and safeguard supplies. Water availability is at least 50% in the zone of influence of the drought option.	None	Minor beneficial
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote long-term improvement in water efficiency have been identified for this option.	None	None
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	Large	Medium	Short term	Temporary	Low (adverse)	Low (adverse)	There would be negligible land use changes associated with this drought option. There are anticipated to be no impacts on geologically important sites.	Negligible adverse	None
Air and Climate	6.1 To maintain and improve air quality.	Large	Medium	Short term	Temporary	Medium (adverse)	Medium (adverse)	The construction phase of the new pipeline and additional assets would give rise to dust emissions that could impact nearby sensitive environmental receptors. However, these effects would be minimised through best practice construction methods, as such, the residual effects would only be moderate adverse. During the operational phase of the scheme, there would be increased energy use associated with pumping and treatment processes. There would be a proportional increase in emissions to atmosphere, however, energy would be supplied from the grid so emissions would not be localised.	Moderate adverse	None
Air and climate	6.2 To reduce greenhouse gas emissions.	Large	Medium	Short term	Temporary	Medium (adverse)	Medium (adverse)	The construction phase of the new pipeline and the pumping and treatment processes involved in the operational phase would be associated with an increase in energy use. This would result in moderate adverse effects associated with the increase in greenhouse gas emissions.	Moderate adverse	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Large	Medium	Short term	Temporary	Low (beneficial)	Medium (beneficial)	Drought plan options are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought which may become more prevalent due to climate change.	None	Minor beneficial

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Large	Medium	Short term	Temporary	Low (adverse)	Low (adverse)	There are no known cultural heritage or archaeology sites dependent on flows in the River Ouse. There is the potential for cultural heritage or archaeology sites within the vicinity of the pipeline route to be impacted. However, assuming best practice constructions methods and the implementation of mitigations measures then these impacts would be negligible.	Negligible adverse	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	Large	Medium	Short term	Temporary	Low (adverse)	Medium (adverse)	There are some limited construction impacts on visual amenity anticipated in rural areas of agricultural land during river intake and pipeline construction, but this would be a short-term impact. No other impacts are anticipated during the operation of the scheme.	Minor adverse	None

Drought Plan Option Name: Ouse Raw Water Transfer

Drought Plan Option Description: The scheme would utilise the existing Ouse abstraction raw water licences (130 Ml/d peak, 96 Ml/d average). Under this option, raw water abstracted Ouse abstraction would be pumped via a new pipeline to the River Derwent Water Treatment Works 1.
Modelling indicates this option would provide an annual average 40Ml/d in a dry year scenario. Use in a drought could be greater depending on water availability in the River Ouse and at other sources supplying River Derwent Water Treatment Works 1. As such, a deployable output of 60Ml/d is assumed for the drought option.

SEA topics and objectives		Assessment of option								
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Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Medium	High	Short term	Permanent	Low (adverse)	Medium (adverse)	The construction of the pipeline has the potential to impact numerous designated sites through habitat destruction and disturbance of susceptible species. However, the adverse effects would be limited to minor through pipeline route diversion and best practice construction techniques. There are a number of NERC fish species (Atlantic salmon, European eel, barbel, sea trout, river lamprey, sea lamprey, allis shad, twaite shad) that could potentially be impacted by the operation of the scheme. However, the abstraction will be within existing abstraction licence limits which have been reviewed by the Review of Consents process under the Habitats Directive. Impacts are therefore assessed as minor adverse. Impacts on downstream SSSIs near the river reaches are assessed as having a minor impact. Uncertainty surrounds the potential impact from construction on various NERC species (birds, great crested newts, bats, otter, water vole, common reptiles, badgers), but best practice construction activity will mitigate adverse effects.	Minor adverse	None
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	Medium	Moderate	Short term	Permanent	Low (adverse)	Medium (adverse)	Invasive species (Japanese knotweed, giant hogweed & Himalayan balsam) are known to be present in the areas that would undergo construction. There is a risk of potentially spreading these species through the construction phase. It is assumed that appropriate mitigation measures will be undertaken to reduce the risk of the spread of invasive species. The operational phase of the scheme poses no risk to the spread of invasive species.	Minor adverse	
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Medium	Moderate	Short term	Temporary	High (beneficial)	Medium (beneficial)	The drought option would provide up to 60 Ml/d helping to maintain essential public water supplies during drought conditions and therefore help maintain public health.	None	Major beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Medium	Moderate	Short term	Temporary	Low (adverse)	Low (adverse)	Construction of the pipeline has the potential to impact access to and enjoyment of recreational resources, including access to the Ebor Way National Trail, for which the route of the trail runs alongside the River Ouse. There are angling activities present in the River Ouse, however, the minor flow reduction in the watercourse is not anticipated to have a significant impact on the quality of the angling in operation.	Negligible adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Medium	Moderate	Short term	Temporary	High (beneficial)	Medium (beneficial)	The option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Major beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Medium	High	Short term	Temporary	Low (adverse)	Medium (adverse)	The scheme's construction (1.6 km pipeline) would involve a small scale consumption of resources and once operational additional chemicals and energy would be required for water treatment and distribution. To mitigate the adverse effects, resources for construction would be sourced locally where possible.	Minor adverse	None
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote the sustainable management of natural resources have been identified for this option.	None	None

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Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) CommentaryJ12:J13**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Medium	Moderate	Short term	Temporary	Medium (adverse)	Medium (adverse)	The drought option in combination with a sewage treatment works (STW) downstream in the Ouse could pose a risk of water quality deterioration. The drought option abstraction could reduce river flow available to dilute the effluent which could lead to an increase in total ammonia and BOD contributions of 7% from Ouse STW 1 at summer low flow. There is one significant flow pressure (a Hydropower Station) at the bottom of the reach.	Moderate adverse	None
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Medium	Moderate	Short term	Temporary	Low (adverse)	Medium (adverse)	The hydrological impact on low flows (up to 14.6%) would be moderate adverse across the impacted reaches of the Ouse (11.7 km). The associated reduction in wetted width and depth could potentially impact habitats hydrologically connected to the River Ouse. The flow reduction would have no impact on navigation.	Minor adverse	None
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Medium	Moderate	Short term	Temporary	Low (beneficial)	Medium (adverse)	The drought option will be accompanied by water conservation campaigns to promote efficient use of water to protect the environment and safeguard supplies. Water availability is at least 50% in the zone of influence of the drought option.	None	Minor beneficial
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote long-term improvement in water efficiency have been identified for this option.	None	None
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	Medium	Moderate	Short term	Temporary	Low (adverse)	Low (adverse)	The small amount of land required to accommodate the new pipeline would have negligible adverse effects on land use and it is anticipated that there would be no impact on geologically sensitive sites.	Negligible adverse	None
Air and Climate	6.1 To maintain and improve air quality.	Medium	Moderate	Short term	Temporary	Low (adverse)	Medium (adverse)	The construction phase of the new pipeline and additional assets would give rise to dust emissions that could impact nearby sensitive environmental receptors. However, these effects would be minimised through best practice construction methods, as such, the residual effects would only be minor adverse. During the operational phase of the scheme, there would be increased energy use associated with pumping and treatment processes. There would be a proportional increase in emissions to atmosphere, however, energy would be supplied from the grid so emissions would not be localised.	Minor adverse	None
Air and climate	6.2 To reduce greenhouse gas emissions.	Medium	Moderate	Short term	Temporary	Low (adverse)	Medium (adverse)	The construction phase of the new pipeline and the pumping and treatment processes involved in the operational phase would be associated with an increase in energy use. This would result in minor adverse effects associated with the increase in greenhouse gas emissions.	Minor adverse	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Medium	Moderate	Short term	Temporary	Low (beneficial)	Medium (beneficial)	Drought measures are a key component of Yorkshire Water's Drought Plan. The Drought Plan aims to ensure resilience of water supplies to drought.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Medium	High	Short term	Temporary	Low (adverse)	Low (adverse)	No known water-dependent cultural heritage or archaeology sites are located within or adjacent to the impacted reaches. There would be negligible construction impacts assessed for other cultural heritage or archaeology sites located in the vicinity of the scheme, including two SAMs (the Nether Poppleton medieval moated site and York Minster Cathedral precinct) and the Roman camp on Clifton Moor, with good construction practices adopted.	Negligible adverse	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	Medium	High	Short term	Temporary	Low (adverse)	Medium (adverse)	Some limited construction impact on visual amenity towards features including the a Park (located within 250m of the proposed pipeline), during river intake and pipeline (1.6km) construction, but this would be localised and short-term impact. No other impacts are anticipated during operation of the scheme.	Minor adverse	None

Drought Plan Option Name: Ouse water treatment works extension

Drought Plan Option Description: This option involves the construction of additional water treatment capacity at Ouse WTW to enable YWSL to abstract water from the River Ouse up to the limit of the abstraction licence. The licence allows for Ouse abstraction of 96Ml/d average and 130Ml/d peak. This option enables an additional 22Ml/d average yield (with an additional 25Ml/d average abstracted) and 40Ml/d maximum yield (with an additional 45Ml/d maximum additional abstraction). The scheme also includes the construction of a new river intake on the River Ouse.

SEA topics and objectives		Assessment of option								
Topic	Objective	Scale of effect: geographical &/ or population affected (small/medium/large)	Certainty of effect (low/ moderate/ high)	Short-term/ medium-term/ long-term	Permanence of effect (permanent/ temporary)	Magnitude of effect (low/ medium/ high)	Value/ sensitivity of receptor (low/ medium/ high)	Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary	Residual adverse effect significance (likely to remain after reasonable mitigation)	Residual beneficial effect significance (likely to remain after reasonable mitigation)
Biodiversity, flora and fauna	1.1 To conserve and enhance biodiversity, including designated sites of nature conservation interest and protected habitats and species (with particular regard to avoiding the effects of over-abstraction on sensitive sites, habitats and species and consideration of adaptability to climate change) and to protect and enhance natural capital and the biodiversity and ecosystem services that contribute to the economy.	Medium	High	Short term	Permanent	Low (adverse)	Medium (adverse)	The construction phase of the scheme would result in adverse effects on designated sites in proximity to new treatment works. Uncertainty surrounds the potential impact from construction on various NERC species (fish, birds, great crested newts, bats, otter, water vole, common reptiles, badgers). Best practice construction methods would also be implemented to further reduce residual effects on environmental receptors. As such, the construction phase of the scheme would only have minor adverse impacts on biodiversity, flora and fauna. The operational phase of the scheme would result in adverse effects on designated sites and NERC species (Atlantic salmon, European eel, barbel, sea trout, river lamprey, sea lamprey, allis shad, twaite shad) hydrologically connected to the impacted reaches of the drought option. However, the abstraction will be within existing abstraction licence limits which have been reviewed by the Review of Consents process under the Habitats Directive. Potential impacts are therefore considered to be minor adverse.	Minor adverse	None
Biodiversity, flora and fauna	1.2 To avoid introducing or spreading INNS.	Medium	Moderate	Short term	Permanent	Low (adverse)	Medium (adverse)	Invasive species (Japanese knotweed, giant hogweed & Himalayan balsam) are known to be present in the areas that would undergo construction. There is a risk of spreading these species through the construction phase. It is assumed that appropriate mitigation measures will be undertaken to reduce the risk of the spread of invasive species. The operational phase of the scheme poses no risk to the spread of invasive species.	Minor adverse	None
Population and human health	2.1 To protect and improve health and well-being (including promoting the value of the water environment for health and wellbeing).	Medium	Moderate	Short term	Temporary	High (beneficial)	Medium (beneficial)	The drought option would deliver 22 Ml/d (average)/ 40Mld (maximum), helping to maintain essential public water supplies during drought conditions and therefore help maintain public health and well-being.	None	Major beneficial
Population and human health	2.2 To protect and enhance opportunities for formal and informal recreation.	Medium	Moderate	Short term	Temporary	Low (adverse)	Low (adverse)	There are angling activities present in the River Ouse, however, the minor flow reduction in the watercourse is not anticipated to have a significant impact on the quality of the angling.	Negligible adverse	None
Population and human health	2.3 To promote a sustainable economy and thriving communities with good access to the services they need.	Medium	Moderate	Short term	Temporary	High (beneficial)	Medium (beneficial)	The option will contribute to the maintenance of supply reliability in drought conditions, ensuring a resilient supply for customers and economic activity.	None	Major beneficial
Material assets and resource use	3.1 To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use and eliminate waste sent to landfill.	Medium	High	Short term	Temporary	Medium (adverse)	Medium (adverse)	The scheme's construction (new treatment works) would involve a medium scale consumption of resources and once operational additional chemicals and energy would be required for water treatment and distribution. To mitigate the adverse effects, resources for construction would be sourced locally where possible.	Moderate adverse	None
Material assets and resource use	3.2 To promote efficient water resource management and the sustainable management of natural resources, ensuring water supply for homes and industry in the area is maintained.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote the sustainable management of natural resources have been identified for this option.	None	None
Water	4.1 To maintain or improve the quality of rivers, lakes, groundwater, estuarine and coastal waterbodies.	Medium	Moderate	Short term	Temporary	Medium (adverse)	Medium (adverse)	The drought option in combination with a sewage treatment works (STW) could pose a risk of water quality deterioration. The drought option abstraction could reduce river flow available to dilute the effluent which could lead to an increase in total ammonia and BOD contributions of 7% from Ouse STW 1 at summer low flow.	Moderate adverse	None
Water	4.2 To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	Medium	Moderate	Short term	Temporary	Low (adverse)	Medium (adverse)	The hydrological impact on low flows across the impacted reaches (11.7 km) would be minor adverse. This change in flow (up to 10.9%) would reduce the wetted width and depth and potentially have an impact on habitats hydrologically connected to the River Ouse. The minor flow reduction would have no impact on navigation.	Minor adverse	None

SEA topics and objectives		Assessment of option								
Topic	**Objective**	**Scale of effect: geographical &/ or population affected (small/medium/large)**	**Certainty of effect (low/ moderate/ high)**	**Short-term/ medium-term/ long-term**	**Permanence of effect (permanent/ temporary)**	**Magnitude of effect (low/ medium/ high)**	**Value/ sensitivity of receptor (low/ medium/ high)**	**Potential residual effect on sensitive receptors (assuming good practice construction methods) Commentary**	**Residual adverse effect significance (likely to remain after reasonable mitigation)**	**Residual beneficial effect significance (likely to remain after reasonable mitigation)**
Water	4.3 To ensure appropriate and sustainable management of abstractions (or compensation flow) to maintain water supplies whilst protecting ecosystem functions that rely on water resources.	Medium	Moderate	Short term	Temporary	Low (beneficial)	Medium (beneficial)	The drought option will be accompanied by water conservation campaigns to promote efficient use of water to protect the environment and safeguard supplies. Water availability is at least 50% in the zone of influence of the drought option.	None	Minor beneficial
Water	4.4 To promote water efficiency and measures that enable sustainable water use.	N/A	N/A	N/A	N/A	N/A	N/A	No opportunities to promote long-term improvement in water efficiency have been identified for this option.	None	None
Soil, geology and land use	5.1 To protect and enhance the quality and quantity of soils and to protect and enhance geodiversity.	Medium	Moderate	Short term	Temporary	Low (adverse)	Low (adverse)	The small amount of land required to accommodate the new treatment works would have negligible adverse effects on land use and it is anticipated that there would be no impact on geologically sensitive sites.	Negligible adverse	None
Air and Climate	6.1 To maintain and improve air quality.	Medium	Moderate	Short term	Temporary	Medium (adverse)	Medium (adverse)	The construction phase of the new WTW and associated infrastructure would give rise to dust emissions that could impact nearby sensitive environmental receptors. However, these effects would be minimised through best practice construction methods, as such, the residual effects would only be minor adverse. During the operational phase of the scheme, there would be increased energy use associated with pumping and treatment processes. There would be a proportional increase in emissions to atmosphere, however, energy would be supplied from the grid so emissions would not be localised.	Moderate adverse	None
Air and climate	6.2 To reduce greenhouse gas emissions.	Medium	Moderate	Short term	Temporary	Medium (adverse)	Medium (adverse)	The construction phase of the new treatment works and the treatment processes involved in the operational phase would be associated with an increase in energy use. This would result in minor adverse effects associated with the increase in greenhouse gas emissions.	Moderate adverse	None
Air and climate	6.3 To consider the need for adaptive measures for climate change.	Medium	Moderate	Short term	Temporary	Low (beneficial)	Medium (beneficial)	Drought plan options are a key component of Yorkshire Water's Drought Plan. The Plan aims to ensure resilience of water supplies to drought which may become more prevalent due to climate change.	None	Minor beneficial
Archaeology and Cultural Heritage	7.1 To conserve and enhance the historic environment, heritage assets and their settings and protect archaeologically important sites.	Medium	High	Short term	Temporary	Low (adverse)	Low (adverse)	No known water-dependent cultural heritage or archaeology sites are located within or adjacent to the impacted reaches. Potential impacts on other cultural heritage or archaeology sites due to the construction phase of the scheme would be negligible as appropriate mitigation measures would ensure that assets are not impacted.	Negligible adverse	None
Landscape and Visual Amenity	8.1 To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	Medium	High	Short term	Temporary	Low (adverse)	Medium (adverse)	The construction of the new treatment works would have a temporary minor adverse impact on visual amenity of the surrounding countryside, however, permanent impacts are considered to be negligible when accounting for appropriate design and visual screening. The impact on the natural flow regime in the impacted water courses would not be perceptible.	Minor adverse	None