Ricardo Energy & Environment

Severn Trent Water Ltd

Draft Water Resources Management Plan 2019

Water Framework Directive Compliance Assessment

Report for Severn Trent Water Ltd

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Executive Summary

Water companies in England and Wales are required to produce a Water Resources Management Plan (WRMP) every five years. The Plan sets out how the company intends to maintain the balance between supply and demand for water over the long-term planning horizon in order to ensure security of supply in each of the water resource zones making up its supply area.

As part of the development of the Water Resources Management Plan 2019 (WRMP19), the Water Framework Directive (WFD) assessment considers the potential effects of alternative options and programmes on WFD objectives. The WFD assessment has been undertaken in parallel with the Strategic Environmental Assessment (SEA) and Habitats Regulations Assessment (HRA) to ensure an integrated approach to environmental assessment, and has been used to inform the development of the draft WRMP to ensure its overall compliance with relevant legislation and national water resource planning guidance.

Severn Trent Water has assessed the potential implications of its draft WRMP19 on WFD objectives, both in isolation and in-combination.

WFD Assessment Approach

The fundamental environmental objectives of the WFD are to attain good ecological status and prevent deterioration of the status of designated water bodies. These objectives are set down in Article 4 of the WFD. Any new development (as well as existing operations) must ensure that these WFD objectives are not compromised. A series of objectives based on Article 4 of the WFD have been developed for the WRMP19 WFD assessment when considering solutions, programmes or the Plan as a whole:

Objective 1: To prevent deterioration between status classes of any water body

Objective 2: To prevent the introduction of impediments to the attainment of Good WFD status or potential for the water body. It is noted that for some water bodies, it is accepted that achievement of Good status or potential is currently technically infeasible or disproportionately costly. Where this is the case, the test is applied to the currently agreed objectives for that water body rather than against Good status/potential.

Objective 3: To ensure that the planned programme of measures in the RBMP to help attain the WFD objectives for the water body (or the environmental objectives in the 2015 RBMPs) are not compromised

Objective 4: To ensure the achievement of the WFD objectives in other water bodies within the same catchment are not permanently excluded or compromised

Two further objectives are to review and document if the solution assists the meeting of WFD objectives, which is over and above a test of WFD compliance of the component:

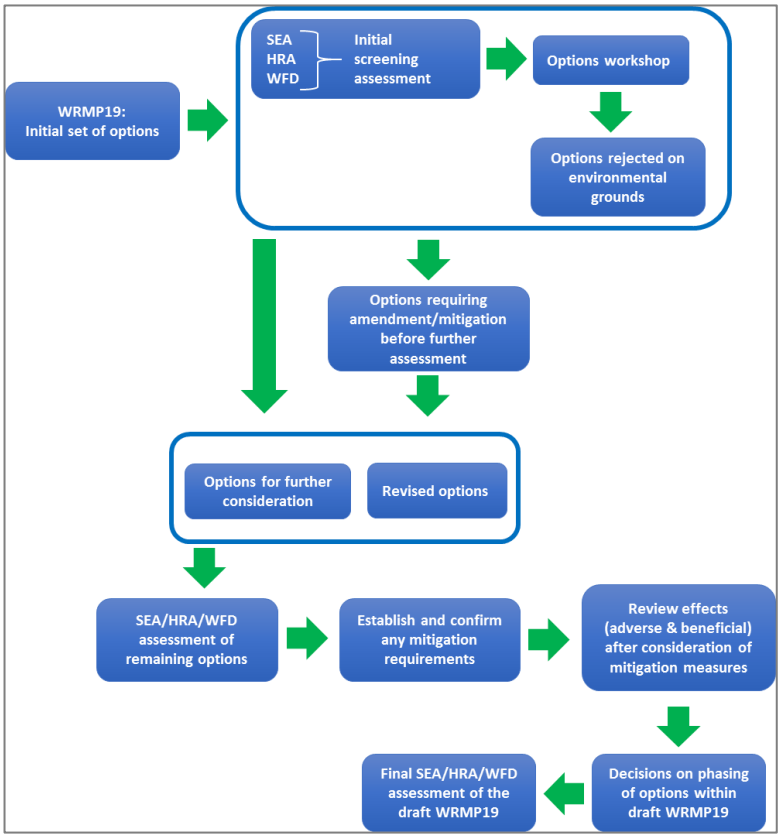
Objective 5: To assist the attainment of the WFD objectives for the water body

Objective 6: To assist the attainment of the objectives for associated WFD protected areas.

A sequential process for undertaking WFD assessments has been applied as follows:

- WFD compliance assessment screening of components
- WFD compliance assessment of feasible components
- Preferred programme WFD compliance statement
- In-combination assessment of the preferred programme with other projects, plans or programmes

The diagram below shows how the WFD assessment process has been integrated with the Strategic Environmental Assessment (SEA) and Habitats Regulations Assessment (HRA) process.



WFD Screening

Two stages of WFD screening have been carried out for the draft WRMP19. Initially, a high-level screening process was carried out on the unconstrained list of options to rule out options with likely high risks of WFD status deterioration. A second stage of screening of the constrained list of options was then carried out, resulting in several options being rejected due to higher risks of WFD status deterioration. All of the remaining Feasible supply-side components were then subject to the full WFD compliance assessment process.

WFD Compliance Assessment for Components on the Feasible List

A WFD compliance assessment for all components included in the feasible list was carried out. The demand management in the draft WRMP19 were screened out of further assessment as there is no risk of temporary or permanent deterioration in WFD status as a result of their implementation.

For the feasible supply-side components, the majority of the screened-out components involved transfers of treated water within the network or abstractions from confined aquifers and therefore posing a negligible risk of deterioration to any WFD water bodies. The remaining components were resource components including groundwater abstraction, surface water abstraction, reservoir capacity increase, wastewater reuse and desalination. These components were assessed in more detail for WFD compliance. The majority of the feasible components were assessed as being compliant with WFD objectives, however, there were some uncertainties for a small number of assessments as follows:

- Groundwater resources: uncertainties relating to the hydraulic connectivity between the groundwater sources and potential dependent rivers
- Reservoir capacity increase: uncertainties related to understanding the reservoir expansion strategy, lake bathymetry and the nature and sensitivity of the existing macrophytes population

- Wastewater reuse: uncertainties related to understanding the effluent quality to be transferred to the watercourses, the species assemblages in the affected river reaches.

WFD Compliance Assessment for WRMP Preferred Programme

The assessment has indicated that, with one exception, the solutions included in the draft WRMP19 strategies are compliant with WFD requirements. The assessment has indicated uncertainty as to the magnitude of effects on WFD water bodies for one of the solutions included in the draft WRMP19 preferred programme, and therefore a risk of non-compliance with Objective 1 (risk of deterioration in status of the water body):

- The Littleflette groundwater abstraction solution assessment indicated potential for impacts on a surface water body. Further assessment of the hydrogeological connectivity between the groundwater source and dependant ecosystems is required in order to confirm the magnitude of any potential impact during operation which is likely to arise during most years once the component has been commissioned. Mitigation might include monitoring groundwater levels and river flow rates and reducing or stopping abstraction during times of low flow in the river.

Cumulative WFD Compliance Assessment

The potential for cumulative effects between each solution within the WRMP19 preferred programme has also been assessed. Proposed solutions that have the potential to impact the same water bodies have been grouped and assessed.

Two water bodies were identified as potentially being at risk from cumulative operation of two or more solutions and requiring cumulative WFD compliance assessment:

- Carsington Water
- Trent from Dove to Derwent

The cumulative assessment concluded that the Carsington Water water body was at a low risk of adverse effects due to cumulative releases from the reservoir and subsequent lowering of water levels. This is not expected to cause a significant decrease in water levels, but the risk of impacting ecological receptors especially macrophytes would increase during times of drought. Any impacts can be mitigated through control of abstraction during droughts and monitoring of water levels. It also conduced that there would be a negligible risk of adverse impact on the flow regime and ecology of the River Trent (Dove to Derwent) as a consequence of a 70 Ml/d cumulative abstraction from two proposed solutions.

Assessment of the potential cumulative effects with water resources management options proposed in neighbouring water companies' draft WRMP19s cannot be completed as all water companies are working in parallel on their preferred programmes. An in-combination assessment will be included for the revised draft WRMP once other companies preferred programmes, and regulatory feedback are known.

Draft WRMP19 WFD Compliance

For the vast majority of the solutions included in Severn Trent's draft WRMP19 preferred programme, the WFD assessment has demonstrated compliance with WFD objectives and statutory requirements. There is one proposed solution where further investigations are required to confirm WFD compliance. Potential risks of cumulative adverse effects between other water companies draft WRMPs remain to be investigated. In all cases, it is considered likely that additional mitigation measures can be deployed (at additional cost) to address any WFD compliance risks arising from these further investigations.

1 Introduction

1.1 Background and Purpose of Water Framework Directive (WFD) Assessment

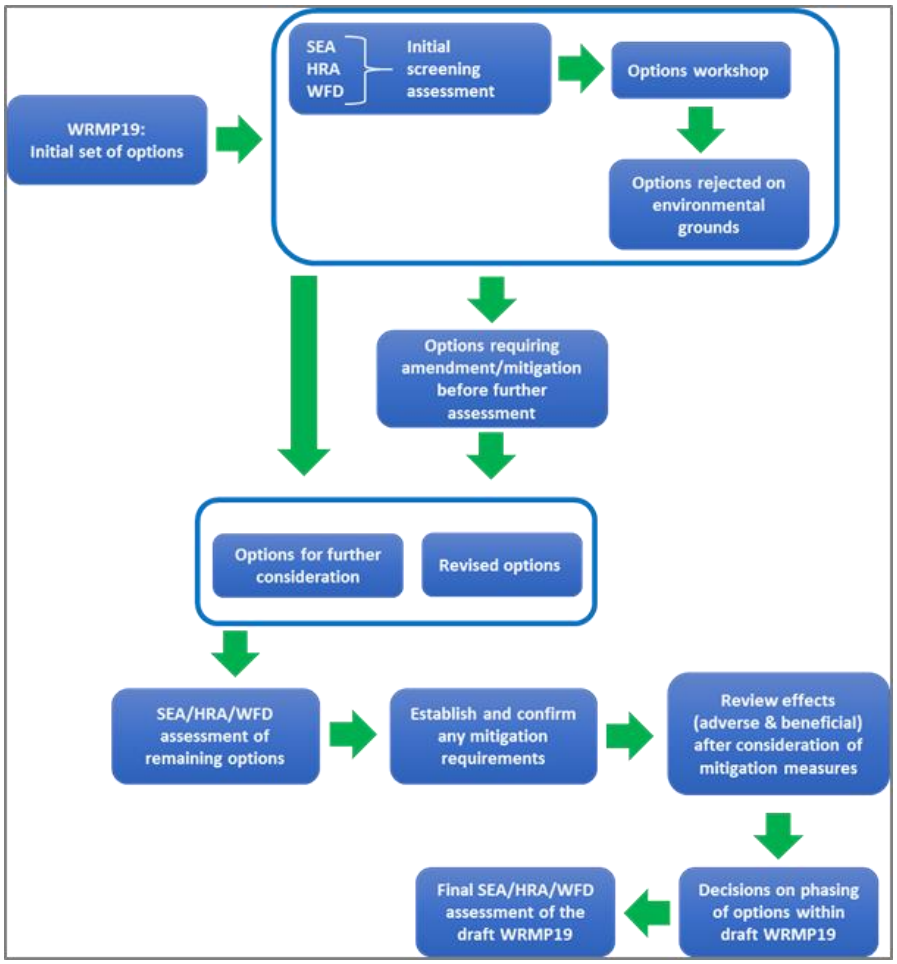
Severn Trent Water Limited (Severn Trent Water) is issuing its draft Water Resources Management Plan (WRMP) for public consultation in early 2018 and has undertaken a Water Framework Directive (WFD) assessment to inform the development of the plan.

Water companies in England and Wales are required to produce a Water Resources Management Plan (WRMP) every five years. The Plan sets out how the company intends to maintain the balance between supply and demand for water over the long-term planning horizon in order to ensure security of supply in each of the water resource zones making up its supply area.

As part of the development of the Water Resources Management Plan 2019 (WRMP19), the Water Framework Directive (WFD) assessment considers the potential effects of alternative options (or components) on WFD objectives.

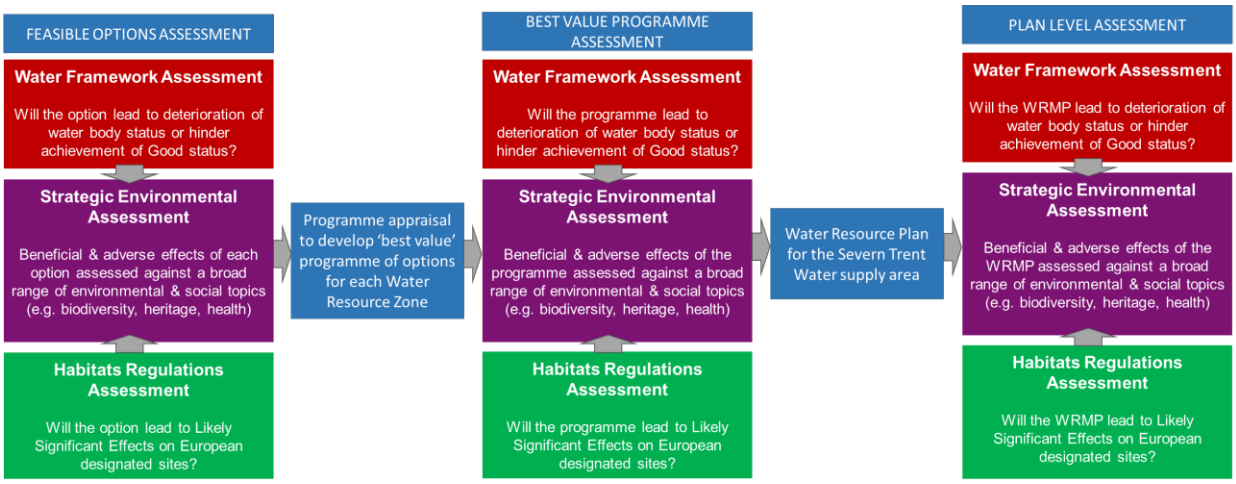
The WFD assessment has been undertaken in parallel with the Strategic Environmental Assessment (SEA) and Habitats Regulations Assessment (HRA) to ensure an integrated approach to environmental assessment, and has been used to inform the development of the draft WRMP to ensure its overall compliance with relevant legislation**. Figures 1.1** and **1.2** show the overall process for integrating WFD assessment into the development of the draft WRMP.

Figure 1.1 Integration of the WFD assessment into the draft Water Resource Management Plan process



This document outlines the approach adopted and reports the findings from the WFD compliance assessment of WRMP components and preferred programmes. The assessment involves the consideration of the likely impacts of both construction and operation of each WRMP component on Water Framework Directive requirements alone and in combination with other components, programmes and plans. In particular, consideration has been given in the assessments as to whether there is a risk of deterioration in water body status between the status classes of any given WFD element. The assessment methodology was issued for consultation to the Environment Agency and wider stakeholders in 2016.

Figure 1.2 Integration of the WFD assessment into the development of the draft Water Resource Management Plan.



1.2 WFD Requirements for Water Resource Management Plan

The requirements for a WFD compliance assessment of a water company WRMP are explained in the Water Resources Planning Guideline (Box 1).

Box 1: WRPG 2016
Water Framework Directive Assessment of a WRMP
(Section 6.11 Water Framework Directive)

*"You must take account of the **requirements of the WFD**, including the legally binding **environmental objectives in the river basin management plans**, when considering your proposed solution(s). You should consider solutions that promote the requirements of Article 7 of WFD (that seeks, as a minimum, to **prevent deterioration of water with the aim of reducing the treatment needed to produce drinking water**) and look to work in partnership with others. You should review solutions that have been identified in RBMP and this may require partnership working with others in the catchment to achieve the solution.*

*You should confirm that there is **no risk of deterioration from a potential new abstraction or from increased abstraction** at an existing source before you consider it as a **feasible option**. In addition, you should ensure that **any options do not prevent the achievement of good status (or potential)**. You should talk to the Environment Agency or Natural Resources Wales about any intended actions that may cause deterioration of status (or potential) or prevent the achievement of the water body status objectives in the river basin management plans or for new modifications the achievement of good status (or potential). You should do this as soon as possible before developing your plan and you should make a clear statement in your plan about any potential impacts.*

*Your plans should include targeted and cost-effective **implementation of restoration measures required at the catchment scale**, either working solely or in partnership with other catchment based organisations. Given the uncertainty over the level of confidence you should consider the principles of adaptive management, with associated pre and post project monitoring."*

These WRPG requirements reflect Defra's Guiding Principles for Water Resources Planning[1] (May 2016) which state that companies should take account of the government's objectives for the environment "including the appropriate parts of the EU Water Framework Directive". Defra also expects that companies will:

- Have regard to River Basin Management Plans (RBMPs) and their objectives when making decisions that could affect the condition of the water environment
- Ensure that current abstractions and operations, as well as future plans support the achievement of environmental objectives and measures set out in RBMPs.
- Ensure plans:
    - prevent deterioration in water body status;
    - support the achievement of protected area and species objectives;
    - support the achievement of water body status objectives.
- Continue working with the Environment Agency to take a proportionate and evidence based approach to identify the changes needed to current abstraction licences to meet environmental requirements.

Both WRPG and the Defra Guiding Principles refer to ensuring 'no deterioration' of water body status. The European Court of Justice (ECJ) ruling[2] in 2015 clarified that 'no deterioration' in relation to the WFD means a deterioration between a whole 'status class' (e.g. 'good', 'moderate', etc.) of one or more of the relevant 'quality elements' (e.g. biological, physico-chemical, etc.). This definition applies equally to Artificial Water Bodies (AWB) and Heavily Modified Water Bodies (HMWB) in respect of the relevant quality elements that relate to the defined uses of these water bodies. The ECJ ruling further states that if the quality element concerned is already in the lowest class, any deterioration of that element constitutes a deterioration of the status.

References to 'no deterioration' in this WFD assessment align to this ECJ ruling.

1 Defra (2016) Guiding Principles for Water Resources Planning. May 2016.
2 ECJ Case C‑461/13: Bund für Umwelt und Naturschutz Deutschland v Bundesrepublik Deutschland http://curia.europa.eu/juris/document/document.jsf?docid=178918&mode=req&pageIndex=1&dir=&occ=first&part=1&text=&doclang=EN-&cid=175124 [accessed 30.6.16]

2 WFD Assessment Approach

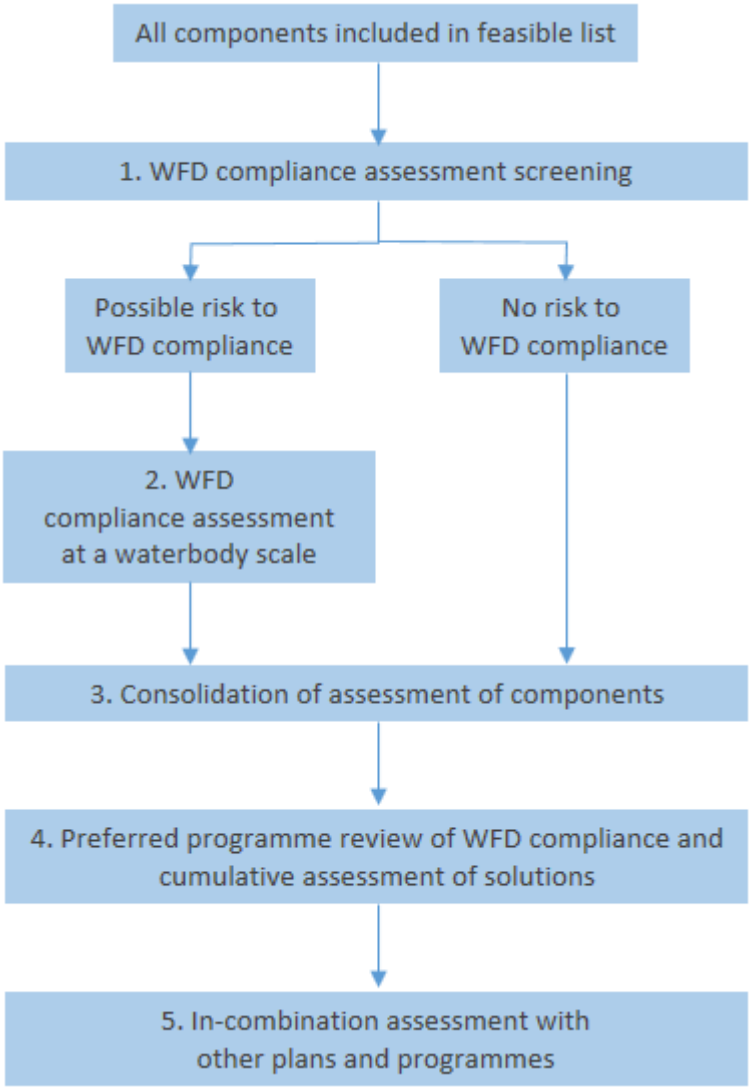
2.1 Methodology

2.1.1 Sequential process

The WFD assessment findings were actively used by Severn Trent Water in determining the 'best value' programme of solutions for each water resource zone. Where solutions were selected for inclusion in the preferred programme strategy for each water resource zone following programme appraisal modelling, a further review was carried out of each solution, both alone and in combination with any other solutions, so as to ensure that the strategy was compliant with key WFD objectives.

A sequential 5-stage process for undertaking WFD compliance assessments has been applied as follows in line with the methodology published by Severn Trent Water in 2016, as illustrated in Figure 2.1. The 5 stages are numbered in **Figure 2.1** and outlined below.

Figure 2.1 WRMP WFD compliance assessment steps



A sequential 5-stage process for undertaking WFD compliance assessments has been applied as follows in line with the methodology published by Severn Trent Water in 2016:

- WFD compliance assessment screening: involves a preliminary assessment of each component and identifies whether there may be any risk of deterioration in WFD status. This is based on expert judgement. Where a risk is identified, the component is subject to the WFD compliance assessment. This step of the assessment is reported in **Appendix A**.
- WFD compliance assessment: This involves assessment of the likely changes to hydro-morphology and water quality occurring as a result of the construction or operation of the component and the possible risks to WFD status. In addition, the potential effects on WFD protected areas are assessed.
- Component/ solution level WFD compliance assessment: This involves summarising WFD compliance assessments of each of the components on the feasible list (from Steps 1 and 2). This step of the assessment is reported and in **Appendix B** and summarised in Section 3.
- Preferred programme WFD compliance statement. This involves a statement of the compliance of the preferred programme against each of the WFD compliance objectives set out in Section 2.1.2 below. This involves assessment of the set of solutions within the programme, both alone and in combination with other solutions within the programme. The assessment is also used to identify where multiple solutions potentially impact on the same WFD water body, and potentially downstream water bodies where appropriate. This step of the assessment is reported in Section 4.
- In-combination assessment of the preferred programme with those of other water companies WRMP19. For draft WRMP this step cannot be fully completed as all water companies are working in parallel on their preferred programmes. An in-combination assessment will be included for the revised draft WRMP once other companies preferred programmes, and regulatory feedback are known. This step of the assessment is reported in Section 5.

An in-combination assessment with other plans and policies, including Severn Trent's Drought Plan, is included in the Environmental Report of the Strategic Environmental Assessment. It is noted that options promoted through the WRMP may interact with options included within the Drought Plan, with potential changes to the effectiveness of the drought measure or the environmental impact. This may inform the selection of components within the preferred programme of the WRMP. Where there are potential changes to the Drought Plan, these would be updated as part of the cycle of Drought Plan updates at the time that the WRMP component is implemented, either by changing the suite of drought measures or changing the environmental baseline for assessing the environmental effects of the drought measure.

2.1.2 WFD Compliance Objectives

Fundamental environmental objectives of the WFD are to attain good ecological status and prevent deterioration of the status of water bodies. These objectives are set down in Article 4 of the WFD. Any new development (as well as existing operations) must ensure that these WFD objectives are not compromised. Article 4 on environmental objectives has been interpreted and further developed in EA (2016)[3], Defra/EA (2009)[4], DoE NI (2012)[5] and WRPG (2016) to give a series of objectives to test in the WFD assessment. Based on these, the following are set out as objectives to test for in the WFD compliance assessment.

Objective 1: To prevent deterioration between status classes of any water body

Objective 2: To prevent the introduction of impediments to the attainment of Good WFD status or potential for the water body. It is noted that for some water bodies, it is accepted that achievement of Good status or potential is currently technically infeasible or disproportionately costly. Where this is the case, the test is applied to the currently agreed objectives for that

3 EA (2016) Protecting and improving the water environment – Water Framework Directive compliance of physical works in rivers. Doc No. 488_10.
4 Defra/EA (2009) WFD Expert Assessment of Flood Management Impacts. Joint Defra/ EA Flood and Coastal Erosion Risk Management R&D Programme. R&D Technical Report FD2609/TR. Report prepared by Royal Haskoning.
5 Department of the Environment Northern Ireland (2012) Carrying Out a Water Framework Directive (WFD) Assessment on EIA Developments. A Water Management Unit Guidance Note. March 2012

water body rather than against Good status/potential.

Objective 3: To ensure that the planned programme of measures in the RBMP to help attain the WFD objectives for the water body (or the environmental objectives in the 2015 RBMPs) are not compromised

Objective 4: To ensure the achievement of the WFD objectives in other water bodies within the same catchment are not permanently excluded or compromised

Two further objectives are to review and document if the component assists the meeting of WFD objectives, which is over and above a test of WFD compliance of the component:

Objective 5: To assist the attainment of the WFD objectives for the water body

Objective 6: To assist the attainment of the objectives for associated WFD protected areas.

Objective 5 has been added to indicate whether the component actually assists with attaining WFD water body objectives, acknowledging that no water resource component is under any obligation to do so. Objective 6 has been added based on the specific requirement of the 2016 WRPG. A "negative" answer to testing of Objectives 5 or 6 does not indicate that the component has an adverse WFD compliance assessment but does inform the assessment of that component relative to other component.

2.2 Supporting Information and Data Used

Information on the design, construction and operation of the component was obtained from the relevant conceptual design proformas. The WFD status and water body information has been obtained from the Environment Agency (2016)[6] online Catchment Data Explorer for RBMP2 for the year 2015. Water body protected areas linkages were also obtained from the Environment Agency's online Catchment Data Explorer, these include:

- Bathing Water Directive: Bathing waters
- Drinking Water Directive: Drinking water protected area
- Conservation of Wild Birds Directive: water dependent Special Protection Areas (SPAs)
- Habitats Directive: water dependent Special area of Conservations (SACs)
- Shellfish Directive[7]: Shellfish waters
- Nitrates Directive: Nitrate Vulnerable Zones
- Urban Waste Water Treatment Directive: Nutrient sensitive area or eutrophication sensitive area

2.3 Consultation

Consultation on the Severn Trent WRMP19 key stakeholders including the Environment Agency (EA) and Natural England (NE). The process started in December 2016 with a workshop focused on revising the WRMP14 screening criteria for WRMP19 and identifying potential options that may have major adverse effects (only one identified and screened out). In December 2016, a further workshop with the EA and Natural Resources Wales (NRW) was arranged to discuss progress to date and any further investigations needed to inform the screening process. In January 2017, the constrained list of options and supporting assumptions was issued to the EA and another workshop was held to perform gap-analysis in order to ensure our list of feasible options encompassed strategic solutions that addressed the EA's sustainability reductions targets and WINEP strategy. Fifteen more options were screened out in this process. This workshop was followed by a series of meetings to update any 3rd parties involved

6 Environment Agency (2016) WFD Status for RBMP2 for the year 2015. Available from http://environment.data.gov.uk/catchment-planning/. New version released 31/03/2016. Accessed 07/10/2016.

7 The Shellfish Directive 2006/113/EC was repealed by the Water Framework Directive 2000/60/EC in 2013. The shellfish waters protected areas are waters designated by the Water Environment (Water Framework Directive) (England and Wales) Regulations 2003 as amended. The aim is to protect and improve water quality, to support the growth of healthy shellfish (bivalve and gastropod molluscs) and contribute to good quality edible shellfish.

and sought to fulfil queries from the EA, leading to a further 10 options being excluded from the feasible list. The EA teams involved in the consultation process have provided feedback on the screening and scoping process throughout the spring (2017) and this has informed the scope and design (i.e. licence considerations, INNS, no deterioration goals, fish migration, etc) of the 28 feasible components.

3 Summary of WFD Compliance Assessment for Components on the Feasible List

This section presents a summary of the component WFD compliance assessment for all components included in the feasible list. It is a summary of methodological Steps 1 and 2. The summary includes those components screened as without risk of deterioration in WFD status and without risk to achieving WFD objectives (as identified in **Appendix A**) together with results of the assessment of those components passed forward to Step 2. **Appendix B** summarises the key findings of the WFD assessments while **Appendix A** and **B** provide the details.

All of the demand management components were screened out for full WFD compliance assessment as they were assessed as having no adverse effects on WFD objectives and potentially having beneficial effects on WFD objectives by reducing the growth in demand for water (as assessed in **Appendix A**)

Temporary effects due to short-duration activities like construction or maintenance do not count as deterioration if the water body would recover in a short time without any restoration measures (EA,2016)[8]. Where a component was assessed as having the potential to adversely impact on WFD water bodies during the construction phase and it can be mitigated through the implementation of construction best-practice, the risk of deterioration in WFD status is considered as negligible. Therefore, components only involving impacts relating to construction activities were not assessed further as part of the second stage of the WFD compliance assessment.

The feasible component list included 103 components, 33 of which have been screened-out of further WFD assessment (**Appendix A**). The majority of the screened-out components involved transfers of treated water within the network, posing a negligible risk of deterioration to any WFD water bodies. The remainder 70 components were resource components including groundwater, surface water abstraction, reservoir capacity increase and wastewater reuse. The majority of the feasible components were assessed as being compliant with WFD objective, however, there were some uncertainties in the assessments as follows:

- Groundwater abstractions (12 components): the uncertainties related to understanding the level of hydraulic connectivity between the groundwater sources and potential dependent rivers and/ or groundwater dependent terrestrial ecosystems (GWDTE).
- Reservoir capacity increase (2 components): the uncertainties related to understanding the reservoir expansion strategy, lake bathymetry and the nature and sensitivity of the existing macrophytes population
- Wastewater reuse (6 components): the uncertainties related to understanding the effluent quality to be transferred to the watercourses, the species assemblages in the affected river reaches as well as their sensitivity to changes in water quality and flow regime; for 3 of the components, the uncertainties were centred around the risk of invasive non-native species spread.

8 Water Framework Directive assessment: estuarine and coastal waters. Available at https://www.gov.uk/guidance/water-framework-directive-assessment-estuarine-and-coastal-waters. Accessed 10.09.2017

4 Preferred programme WFD compliance statement

Step 4 in the assessment of the WFD compliance of the preferred programme is presented in Table 4.1. Where solutions (or components), were identified as having a risk of WFD status deterioration, these solutions were discussed as part of the development of the final preferred programme plan for each water resource zone. Where there were a range of alternative options available to meet the forecast supply-demand deficit in the zone, the option(s) was removed from further consideration in the final programme appraisal modelling; where risks to the supply-demand balance necessitated the inclusion of the option(s) in the 'best value' plan, the WFD risks have been clearly identified and additional mitigation measures considered as discussed below. The WFD compliance assessment has concluded for the dWRMP19 preferred programme that:

- None of the individual solutions or the programme would lead to deterioration of water body status or prevent them from achieving good status and are therefore compliant with Objectives 1 and 2 for the WFD. However, the assessment has indicated uncertainty as to the magnitude of effects on WFD water bodies for one solution included in the draft WRMP19 preferred programme, and therefore a risk of non-compliance with Objective 1 (risk of deterioration in status of the water body):
    - The Ladyflette groundwater abstraction solution assessment indicated a potential for impacts on a surface water body. Further assessment of the hydrogeological connectivity between the groundwater source and dependant ecosystems is required in order to confirm the magnitude of any potential impact during operation which is likely to arise during most years once the solution has been commissioned. If hydrological connectivity is determined and there is a risk of reducing flows in the river mitigation can be put in place. Mitigation might include monitoring groundwater levels and river flow rates and reducing or stopping abstraction during times of low flow in the river.

With respect to the other WFD compliance objectives the following conclusions are made:

- The effect of each solution individually on downstream water bodies, together with consideration of any further water bodies arising at the programme level has been included within the compliance assessment of Objectives 1-4 above.
- None of the proposed solutions in the draft WRMP19 preferred programme (with the exception of demand management options) contribute to the attainment of good status or good potential objectives for any water bodies.
- None of the proposed solutions in the draft WRMP19 preferred programme contribute to the attainment of objectives for WFD protected areas.

Table 4.1 Summary table of overall WFD assessment results for each solution included in the draft WRMP19 preferred programme

Solution Name	Solution ID	Solution component(s) ID	WFD Compliance	
			Assessment	Reason for solution not being confirmed as compliant
Heathy Lea to North Nottinghamshire transfer solution	NOT04	305	Compliant	
Birmingham BHs conversion to potable supply	BHS15	12	Compliant	
WTW C enhancements	DOR05	99E	Compliant	
WTW I enhancements	DOR02	99B	Compliant	
WTW E expansion and transfer main supported by raw water augmentation of the River Trent	WIL05	7A&14B	Compliant	
WTW F expansion	LIT01	32	Compliant	
WTW B enhancements	DOR08	99D	Compliant	
Whaddon (Strategic Grid WRZ) to Forest & Stroud WRZ transfer solution	GRD15	132	Compliant	
Improve WTW L outputs during low raw water periods	UNK07	195	Compliant	
Peckforton Group BHs rehabilitation and treatment enhancement	GRD18	200	Compliant	
River Soar to support WTW B	CRO06	54	Compliant	
East Midlands raw water storage (Site CQ) including new WTW	WTW05	31C	Compliant	

Solution Name	Solution ID	Solution component(s) ID	WFD Compliance	
			Assessment	Reason for solution not being confirmed as compliant
Carsington Reservoir support to WTW Q with enhancements	MEL29	17&99G	Compliant	
Reservoir C capacity increase (Size A) with transfer main from WTW C to Coventry	DAM07	122A&310	Compliant	
WTW R to Baslow pipeline capacity increase	BAM04	313	Compliant	
Stanford Reservoir capacity increase (Size A)	DAM01	84A	Compliant	
Thornton Reservoir to support WTW B	CRO05	135	Compliant	
Ambergate to Mid Nottinghamshire transfer solution	NOT01	304	Compliant	
Reservoir A capacity increase (Size A)	DAM03	84C	Compliant	
Ladyflatte BHs recommissioning	BHS07	198	Uncertain	Uncertainty surrounding hydrogeological linkage with a river (Ecclesborne Catchment)
Lower Shustoke capacity increase (Size A)	DAM02	84B	Compliant	
DVA to Nottingham transfer pipeline capacity increase	GRD19	16	Compliant	
Maximise deployment from Diddlebury WTW and Munslow BH	BHS06	191	Compliant	
Enhanced Social Housing Water	WE003B		Compliant	

Solution Name	Solution ID	Solution component(s) ID	WFD Compliance	
			Assessment	Reason for solution not being confirmed as compliant
Efficiency Audit				
Enhanced Social Housing Water Efficiency Audit	WE004B		Compliant	
Leakage reduction	WE005		Compliant	
Increase in Metering	WE006		Compliant	

The potential for cumulative effects between each solution has been assessed with the draft WRMP19 preferred programme. Table 4.2 lists all the solutions that have the potential to impact on WFD water bodies and their WFD compliance assessment results. The solutions that have the potential for programme level in-combination effects are highlighted in grey in Table 4.2. An assessment of the hydrological impacts of the grouped solutions in combination with one another has then been carried out to determine whether risk to deterioration in WFD status. The findings from this cumulative assessment are summarised Table 4.3.

Table 4.2 Summary of in-combination WFD compliance assessment of preferred programme by water body

WFD Water body			Solution Name and ID								
Type	Water body ID	Water body Name	BHS15: Birmingham BHs conversion to potable supply	MEL29: Carsington Reservoir support to WTW Q with enhancements	DAM07: Reservoir C capacity increase (Size A) with transfer main from WTW C to Coventry	CRO06: River Soar to support WTW B	WTW05: East Midlands raw water storage (Site CQ) including new WTW	WIL05: E WTW expansion and transfer main supported by raw water augmentation of the River Trent	LIT01: WTW F expansion	BHS07: Ladyflatte BHs recommissioning	DOR08: WTW B enhancements
Groundwater	GB40401G301000	Tame Anker Mease - PT Sandstone Birmingham Lichfield	✓								
River	GB104028042550	Rea from Bourn Brook to River Tame	✓								
River	GB104028042640	Hockley Brook Catchment (trib of Rea)	✓								
Lake	GB30447006	Carsington Water		✓				✓	✓		
River	GB104028052670	Dove - conf R Manifold to conf R Churnet		✓							
River	GB104028052420	Dove - R Churnet to R Trent		✓							
River	GB104028052700	Henmore Brook		✓							
Lake	GB30938250	Reservoir C			✓						
River	GB104028047211	Soar from Rothley Brook to Long Whatton Brook				✓					
River	GB104028047420	Trent from Dove to Derwent					✓	✓			
River	GB104028046680	Penk from Source to Saredon Brook						?			
River	GB104028052310	Derwent from Amber to Bottle Brook							✓		
River	GB104028053240	Derwent from Bottle Brook to Trent									
Groundwater	GB40402G990400	Derwent - Secondary Combined								?	
River	GB104028052720	Ecclesborne Catchment (trib of Derwent)								?	
Lake	GB30436331	Reservoir B									✓

Key: All WFD water bodies identified in draft WRMP19 preferred programme listed.
Only components screened in for further WFD assessment listed.
Component assessed for WFD compliance in this water body individually and assessed as: ✓ compliant; ? uncertain; × not compliant
Grey highlight indicates potential for programme level in-combination effects, reviewed below.

Table 4.3 In-combination WFD compliance assessment of the draft WRMP19 preferred programme

Water Body Receptor	Solution Name and ID	Solution Component ID	Assessment of Potential for Cumulative Effects	Risk Rating (RAG)
Carsington Water (GB30447006)	MEL29: Carsington Reservoir support to WTW Q with enhancements WIL05: WTW E expansion and transfer main supported by raw water augmentation of the River Trent LIT01: WTW F expansion	17&99G 7A&14B 32	***Identifying sources:*** All three solutions will involve releasing water from Carsington Water during their operation. ***Potential environmental change and predicted response to change:*** Currently, Carsington Water fills from River Derwent during the winter and provides releases to the same river during the summer, at a rate of 30 Ml/d. Given the current operational pattern, Carsington Water is assumed to have a significant surplus even during dry weather. The total abstraction volume to be removed from Carsington Water during the operation of the proposed three solutions equates to approximately 0.47% of its capacity (23000 Ml) per day. This is not expected to cause a significant decrease in water levels, but the risk of impacting ecological receptors especially macrophytes would increase during times of drought. ***Uncertainty, mitigation and monitoring*:** Further assessing the level of drawdown in the reservoir would be required to confirm this. This would include examining the water level fluctuation and the bathymetry of the reservoir as well as the sensitivity of macrophytes species. Mitigation may include a reduction in the rate of abstraction during droughts in order to maintain reservoir levels. Monitoring the water levels in the reservoir would be necessary to trigger the proposed mitigation measures ***Overall rating of cumulative effects:*** There is a low risk of adverse impact on the reservoir's ecology due to the increase in drawdown as a consequence of multiple abstractions operating simultaneously.	Low
Trent from Dove to Derwent (GB104028047420)	WTW05: East Midlands raw water storage (Site CQ) including new WTW WIL05: WTW E expansion and transfer main supported by raw water augmentation of the River Trent (WIL05)	31C 7A&14B	***Identifying sources:*** Both solutions will involve abstraction from River Trent from Dove to Derwent during their operation, assumed to be all year round. ***Potential environmental change and predicted response to change:*** The total abstraction volume to be removed from River Trent (Dove to Derwent) during the operation of both solutions equates to 70Ml/d, of which 20Ml/d will be supported by augmentation with final effluent from Barnhurst STW which discharges to the Penk from Source to Saredon Brook (GB104028046680). The current available volume that can be abstracted upstream of North Muskham gauging station before the hands-off flow conditions are triggered is 150 Ml/d. Therefore, the proposed both abstractions could be accommodated within this limit and will not have any significant impact in the flow regime or the aquatic ecology. ***Uncertainty, mitigation and monitoring*:** None proposed at this time ***Overall rating of cumulative effects:*** There is a negligible risk of adverse impact on the flow regime and ecology of the River Trent (Dove to Derwent) as a consequence of a 70 Ml/d cumulative abstraction.	Negligible

5 In-combination Effects with other WRMPs

Assessment of the potential cumulative effects with water resources management options proposed in neighbouring water companies' draft WRMP19s cannot be completed as all water companies are working in parallel on their preferred programmes. An in-combination assessment will be included for the final WRMP once other companies preferred programmes, and regulatory feedback are known. The following water companies will be considered:

- Yorkshire Water
- Dee Valley Water
- United Utilities
- South Staffordshire Water
- Dŵr Cymru Welsh Water
- Anglian Water
- Bristol Water
- Wessex Water
- South East Water
- Thames Water

6 Draft WRMP19 WFD Compliance

For the vast majority of the solutions included in Severn Trent's draft WRMP19 preferred programme, the WFD assessment has demonstrated compliance with WFD objectives and statutory requirements. There is one proposed solution where further investigations are required to confirm WFD compliance. Potential risks of cumulative adverse effects between other water companies draft WRMPs remain to be investigated. In all cases, it is considered likely that additional mitigation measures can be deployed (at additional cost) to address any WFD compliance risks arising from these further investigations.

Appendix A – Component WFD Compliance Assessment Screening Outcomes

This appendix presents the results of the WFD compliance assessment screening outcomes for the components on the feasible list that were screened out of further assessment based on the potential risk of deterioration of WFD status.

Table A1. WFD Screening Summary for supply-side components screened out of further assessment

Component Type	Component Name	Component number	Water Body Name	Water Body Code	Water Body Type	WFD assessment	Reason for screening out of further assessment:
Network transfer	Site R Conjunctive Use	4	N/A	N/A	N/A	Compliant	This component involves the transfer of treated water in the network. There will be no change in the existing borehole operating arrangements. Therefore, there is no risk to WFD groundwater bodies.
Network transfer	Kinsall Additional Resource	101	N/A	N/A	N/A	Compliant	This component involves a network transfer with no new abstractions or discharge to WFD water bodies and therefore there is a negligible risk of deterioration.
Network transfer	Wolverhampton-Staffs Link	110	N/A	N/A	N/A	Compliant	This component is to transfer potable water between two WRZs. No WFD water body involved, therefore there is a negligible deterioration risk.
Bulk supply	Yorkshire Water Bulk Import to Chesterfield	81	N/A	N/A	N/A	Compliant	The component is a bulk import from YW. The water could come from any source within YW supply area. As the donor, Yorkshire Water will be responsible for undertaking the WFD appraisal and quantification of deterioration risks.
Network transfer	DVA to Nottingham Pipeline	16	N/A	N/A	N/A	Compliant	This component involves enhancing network connection. It enables groundwater sources to be rested, which may provide a low temporary

Component Type	Component Name	Component number	Water Body Name	Water Body Code	Water Body Type	WFD assessment	Reason for screening out of further assessment:
	Enhancement						benefit. The component will not involve any change to groundwater abstraction rates relative to current baseline. Additional resource for the component but it is assumed that this is not part of this component. Therefore, there is negligible risk of deterioration in the groundwater body, dependent surface water bodies or GWDTEs.
Reservoir capacity	Minor Dam Extensions (Stanford 10% 100Ml)	84A	Stanford Reservoir	Lake	GB30937864	Compliant	The component is to increase capacities of raw water reservoirs which would involve only minor work to spillways, wave walls and limited (if any) crest raising. It is assumed that the component will not require an increase to the existing licences (which are sustainable) and will just make optimal use of resources. On this basis, there is a negligible risk of WFD deterioration.
Removal of Constraints	Scheme 99G - DO Recovery - Site Q	99G	N/A	N/A	N/A	Compliant	The component does not seek to resolve issues with raw water availability to the head of the works. As there are no new abstractions or discharges, the risk of WFD deterioration is negligible.
Network transfer	Ruyton Support Link	105	Severn Uplands - PT Sandstone Knockin	GW	GB40901G202300	Compliant	This component involves a network transfer with no new abstractions or discharge to WFD water bodies and therefore there is negligible risk of deterioration.
Network transfer	Site Q to Staffs Link	111	N/A	N/A	N/A	Compliant	It is assumed that that no increase in abstraction is required and that that the import will be sustainable. On this basis,

Component Type	Component Name	Component number	Water Body Name	Water Body Code	Water Body Type	WFD assessment	Reason for screening out of further assessment:
							there is negligible risk of WFD deterioration.
Removal of Constraints	Scheme 99B - DO Recovery - Site I	99B	N/A	N/A	N/A	Compliant	The component does not seek to resolve issues with raw water availability to the head of the works. As there are no new abstractions or discharges, the risk of WFD deterioration is negligible.
Removal of Constraints	Scheme 99E - DO Recovery - Site C	99E	N/A	N/A	N/A	Compliant	The component does not seek to resolve issues with raw water availability to the head of the works. As there are no new abstractions or discharges, the risk of WFD deterioration is negligible.
Network transfer	Mardy Support Link	103	N/A	N/A	N/A	Compliant	The component does not involve and additional abstractions or discharges and therefore there is a negligible risk of deterioration in WFD status.
Interzonal transfer	Newark Support Link	104	N/A	N/A	N/A	Compliant	The component involves an interzonal transfer. It is assumed that that no increase in abstraction is required and that that transfer will be a network one. On this basis, there is a negligible risk of WFD deterioration.
Network transfer	Use Thornton reservoir to provide additional supply of raw water to WTW B	135	N/A	N/A	N/A	Compliant	The component does not involve and additional abstractions from WFD water bodies and therefore there is a negligible risk of deterioration in WFD status.
Licence	Eyebrook	190	Eyebrook	Lake	GB30537182	Compliant	This component involves the transfer of

Component Type	Component Name	Component number	Water Body Name	Water Body Code	Water Body Type	WFD assessment	Reason for screening out of further assessment:
transfer/ SW abstraction	Reservoir		Reservoir				and existing licence from Anglian Water. It is assumed that it is a sustainable licence and therefore a negligible risk to WFD deterioration.
Removal of Constraints	Diddlebury BH/Munslow BH Network Constraints	191	N/A	N/A	N/A	Compliant	This component involves removal of network constraints with no new abstractions or discharge to WFD water bodies and therefore there is negligible risk of deterioration.
Interzonal transfer	Mardy Support	192A	N/A	N/A	N/A	Compliant	The component involves an interzonal transfer. It is assumed that that no increase in abstraction is required and that that transfer will be a network one. On this basis, there is negligible risk of WFD deterioration.
WTW upgrade	Change the WTW processes at WTW L so that it has a lower minimum output than ~ 16 Ml/d.	195	Reservoir L	Lake	GB30433790	Compliant	This component involves reconfiguration of a WTW, with no new abstractions or discharge to WFD water bodies and therefore there is negligible risk of deterioration.
Interzonal transfer	Mardy Support	192B	N/A	N/A	N/A	Compliant	The component involves an interzonal transfer. It is assumed that that no increase in abstraction is required and that that transfer will be a network one. On this basis, there is no risk of WFD deterioration.
Reservoir capacity	Minor Dam Extensions (Carsington	84D	Carsington Water	Lake	GB30447006	Compliant	The component is to increase capacities of raw water reservoirs which would involve only minor work to spillways, wave walls and limited (if any)

Component Type	Component Name	Component number	Water Body Name	Water Body Code	Water Body Type	WFD assessment	Reason for screening out of further assessment:
	10% (3600Ml))						crest raising. It is assumed that the scheme will not require an increase to the existing licences (which are sustainable) and will just make optimal use of resources. On this basis, there is low risk of WFD deterioration.
Network transfer/ SW abstraction	Site O to Site K main	121	N/A	N/A	N/A	Compliant	Transfer raw water from the Severn that is within licence (WTW O) to WTW K during restricted flow periods on the Wye. Site O is licensed for 120Ml/d and abstracted flow is supported by releases from the EA's Severn Regulation scheme. The component makes use of existing licences that are sustainable and therefore there is negligible risk of WFD deterioration.
Reservoir capacity	Minor Dam Extensions (Shustoke 10% 200Ml)	84B	Shustoke Reservoir	Lake	GB30437497	Compliant	The component is to increase capacities of raw water reservoirs which would involve only minor work to spillways, wave walls and limited (if any) crest raising. It is assumed that the component will not require an increase to the existing licences (which are sustainable) and will just make optimal use of resources. On this basis, there is negligible risk of WFD deterioration.
Network transfer	Whaddon to Forest Transfer	132	N/A	N/A	N/A	Compliant	This component involves the transfer of treated water in the network. It is assumed there will be no change in abstraction. Therefore, there is negligible risk to WFD water bodies.
Reservoir	Minor Dam Extensions	84C	N/A	N/A	N/A	Compliant	The component is to increase capacities of raw water reservoirs which

Component Type	Component Name	Component number	Water Body Name	Water Body Code	Water Body Type	WFD assessment	Reason for screening out of further assessment:
capacity	(Res. A 5% 70Ml)						would involve only minor work to spillways, wave walls and limited (if any) crest raising. It is assumed that the component will not require an increase to the existing licences (which are sustainable) and will just make optimal use of resources. This reservoir is not a WFD water body and therefore there is no risk of deterioration.
Bulk supply	Peckforton Bulk Import	117	N/A	N/A	N/A	Compliant	This component is a bulk supply of water from UU. As the donor, United Unitilities will be responsible for undertaking the WFD appraisal and quantification of deterioration risks.
WTW upgrade	Peckforton Group Export	200	N/A	N/A	N/A	Compliant	This component involves reconfiguration of a WTW, with no new abstractions or discharge to WFD water bodies and therefore there is negligible risk of deterioration.
Network transfer	Cross-Wolverhampton Strategic Link Main	82	N/A	N/A	N/A	Compliant	This component involves the transfer of treated water in the network. At this is assumed there will only be minor changes to the operational pattern of abstractions. Therefore, there is a negligible risk to WFD water bodies.
Network transfer	Site U 190Ml/d	F-190	N/A	N/A	N/A	Compliant	This component involves the transfer of treated water in the network. At this is assumed there will only be minor changes to the operational pattern of abstractions. Therefore, there is a negligible risk to WFD water bodies.

Component Type	Component Name	Component number	Water Body Name	Water Body Code	Water Body Type	WFD assessment	Reason for screening out of further assessment:
Removal of constraints	Site J to Mansfield Pipeline enhancement	131	Reservoir J	Lake	GB30433781	Compliant	This component involves the removal of constraints to increase the capacity of a network transfer. It is assumed that there is no increased abstraction as part of the component. On this basis, there is negligible risk of WFD deterioration.
Network transfer	Wolves-Birmingham Strategic Link Main	79	N/A	N/A	N/A	Compliant	This component involves the transfer of treated water in the network. At this is assumed there will only be minor changes to the operational pattern of abstractions. On this basis, there is negligible risk of WFD deterioration.
Network transfer	Transfer main from WTW C to Coventry	310	N/A	N/A	N/A	Compliant	The component involves the construction of a new 450mm diameter pipeline with a total length of 10.6km to convey water from WTW C. There is one water course crossing. On this basis, there is negligible risk of WFD deterioration.
Network transfer	Ambergate to Mid Nottinghamshire transfer solution	304	N/A	N/A	N/A	Compliant	This component involves the transfer of treated water in the network. At this is assumed there will only be minor changes to the operational pattern of abstractions. On this basis, there is negligible risk of WFD deterioration.
Network transfer	Heathy Lea to North Nottinghamshire transfer solution	305	N/A	N/A	N/A	Compliant	This component involves the construction of a new s link main from the Strategic Grid WRZ into the Nottinghamshire WRZ. It involves the construction of a new pipeline and pumping station. On this basis, there is negligible risk of WFD deterioration.

Component Type	Component Name	Component number	Water Body Name	Water Body Code	Water Body Type	WFD assessment	Reason for screening out of further assessment:
Network transfer	WTW R to Baslow pipeline capacity increase	313	N/A	N/A	N/A	Compliant	The component consists upgrading sections of aqueduct with the objective of increasing the capacity of this pipeline. It is assumed that there is no increased abstraction as part of the component. On this basis, there is negligible risk of WFD deterioration.

Table A2. WFD Screening Summary for demand options screened out of further assessment

Option Type	Option Name	Option number	Scheme Description	Reason for screening out of further assessment:
Water Efficiency Audit	Enhanced Household Water Efficiency Audit	WE003A	This water efficiency option involves a detailed audit of 30,000 annually household water efficiency (base programme is to complete 25,000 audits annually). Savings are currently based on 30l/property per audit (with max possible of 59 litres). The option is reliant on the customer taking up the recommendations from the audits. The visit will also provide information on behavioural change and impact on water use. The programme will start in 2020 for 15 years and it would provide an average additional saving of 0.15Ml/d.	The option does not involve any increase in abstractions and in fact will help to reduce the pressure on the environment by reducing demand and will have beneficial effects. Therefore, there is no risk of deterioration in WFD status.
Water Efficiency Audit	Enhanced Household Water Efficiency Audit	WE003B	This water efficiency option involves a detailed audit of 35,000 annually household water efficiency (base programme is to complete 25,000 audits annually). Savings are currently based on 30l/property per audit (with max possible of 59 litres). The option is reliant on the customer taking up the recommendations from the audits. The visit will also provide information on behavioural change and impact on water use. The programme will start in 2020 for 15 years and it would provide an average additional saving of 0.30Ml/d.	The option does not involve any increase in abstractions and in fact will help to reduce the pressure on the environment by reducing demand and will have beneficial effects. Therefore, there is no risk of deterioration in WFD status.
Water Efficiency Audit	Enhanced Social Housing Water Efficiency Audit	WE004A	This water efficiency option involve a detailed audit of 7,500 annually social household water efficiency (base programme is to complete 5,000 audits annually). Savings are currently based on 30l/property per audit (with max possible of 59 litres). The option is reliant on the customer taking up the recommendations from the audits. The visit will also provide information on	The option does not involve any increase in abstractions and in fact will help to reduce the pressure on the environment by reducing demand and will have beneficial effects. Therefore, there is no risk of deterioration in WFD status.

Option Type	Option Name	Option number	Scheme Description	Reason for screening out of further assessment:
			behavioural change and impact on water use. The programme will start in 2020 for 15 years and it would provide an average additional saving of 0.08Ml/d.	
Water Efficiency Audit	Enhanced Social Housing Water Efficiency Audit	WE004B	This water efficiency option involves a detailed audit of 12,000 annually social household water efficiency (base programme is to complete 5,000 audits annually). Savings are currently based on 30l/property per audit (with max possible of 59 litres). The option is reliant on the customer taking up the recommendations from the audits. The visit will also provide information on behavioural change and impact on water use. The programme will start in 2020 for 15 years and it would provide an average additional saving of 0.21Ml/d.	The option does not involve any increase in abstractions and in fact will help to reduce the pressure on the environment by reducing demand and will have beneficial effects. Therefore, there is no risk of deterioration in WFD status.

Appendix B - WFD Compliance Assessment Summary for Components

This section presents the outcomes of the WFD compliance assessment for those components on the feasible list.

Table B1. WFD compliance assessment summary for all feasible components

Component Name	Component ID	WFD Compliance	
		Assessment	Reason for component not being confirmed as compliant
Site R Conjunctive Use	4	Compliant	
DVA to Nottingham Pipeline Enhancement	16	Compliant	
Wolves-Birmingham Strategic Link Main	79	Compliant	
Yorkshire Water Bulk Import to Chesterfield	81	Compliant	
Cross-Wolverhampton Strategic Link Main	82	Compliant	
Minor Dam Extensions (Stanford 10% 100Ml)	84A	Compliant	
Minor Dam Extensions (Shustoke 10% 200Ml)	84B	Compliant	
Minor Dam Extensions (Res. A 5% 70Ml)	84C	Compliant	
Minor Dam Extensions (Carsington 10% (3600Ml))	84D	Compliant	
Scheme 99B - DO Recovery - Site I	99B	Compliant	
Scheme 99E - DO Recovery - Site C	99E	Compliant	
Scheme 99G - DO Recovery - Site Q	99G	Compliant	
Kinsall Additional Resource	101	Compliant	
Mardy Support Link	103	Compliant	
Newark Support Link	104	Compliant	
Ruyton Support Link	105	Compliant	
Wolverhampton-Staffs Link	110	Compliant	
Site Q to Staffs Link	111	Compliant	
Peckforton Bulk Import	117	Compliant	
Site O to Site K main	121	Compliant	
Site J to Mansfield Pipeline enhancement	131	Compliant	
Whaddon to Forest Transfer	132	Compliant	
Use Thornton reservoir to provide additional supply of raw water to WTW B	135	Compliant	
Supply of water either from the Canals and Rivers Trust (CRT) network/ rivers/	144A	Compliant	

Component Name	Component ID	WFD Compliance Assessment	Reason for component not being confirmed as compliant
reservoirs/ groundwater sources or from the North (UU) using the CRT network as a transfer route			
Eyebrook Reservoir	190	Compliant	
Diddlebury BH/Munslow BH Network Constraints	191	Compliant	
Mardy Support	192A	Compliant	
Mardy Support	192B	Compliant	
Change the WTW processes at WTW L so that it has a lower minimum output than ~ 16 Ml/d.	195	Compliant	
Peckforton Group Export	200	Compliant	
Site U 190Ml/d	F-190	Compliant	
River Trent Augmentation (Barnhurst)	7A	Uncertain	Potential adverse impacts on the flow regime, water quality and ecology of the River Penk.
Site Q (Dove) Conjunctive Use	17	Compliant	
Elmhurst BH Recommissioning (Potable)	22	Compliant	
Upper Avon/Leam Resource	25A	Uncertain	Potential adverse impacts on the flow regime and ecology of the River Sowe.
Hatton (Warks) Conjunctive Use	27	Uncertain	Potential adverse impact on the flow regime and ecology of Finham Brook.
New BH in Hopton GWMU	30	Uncertain	Potential adverse impacts on the flow regime and ecology of River Sow.
WTW F Conjunctive Use	32	Compliant	
New river WTW nr. Stafford	44	Compliant	
New river WTW on Notts Trent	45	Compliant	
New river WTW at Ombersley	50	Compliant	
New river WTW at Buildwas, Shrops	53	Compliant	
River Weaver to Stoke	58	Compliant	
River Trent to Site Q	61	Compliant	
Stanton/Milton to Supply at Site Q	64	Uncertain	Potential adverse impacts on flow regime and ecology of Milton Brook.
Elmhurst BH raw transfer to Site L	71	Compliant	
River Weaver to WTW L	88	Compliant	

Component Name	Component ID	WFD Compliance Assessment	Reason for component not being confirmed as compliant
Stoke to Stafford Link	108	Uncertain	Potential adverse impacts on the flow regime and ecology of River Trent.
Croxton BH Output Increase	112A	Compliant	
Packington Reuse	138	Uncertain	Potential adverse impacts on the water quality of Carr-New Brook.
Use currently under-utilised R. Severn abstraction licences at Site N	152	Compliant	
Watery Lane BHs	158	Uncertain	Potential adverse impacts on the flow regime and ecology of River Sowe.
Waverly Road BHs	159	Uncertain	Potential adverse impacts on the flow regime and ecology of River Sherbourne.
Swynnerton BHs	163	Uncertain	Potential adverse impacts on the flow regime and ecology of River Trent.
Central Birmingham GW Potable Supply	12	Uncertain	Potential adverse impacts on the flow regime and ecology of River Rea.
Upper Avon/Leam Resource	25B	Uncertain	Potential adverse impacts on the flow regime and ecology of River Sowe.
WTW M Expansion	33	Compliant	
Longdon Marsh Reservoir	34	Compliant	
River Soar to WTW B	54	Compliant	
Leek-Stoke Trunk Main Enhancement	90	Compliant	
WTW J Output Increase	95B	Compliant	
Croxton BH Output Increase	112B	Compliant	
Middle Severn to Site C	120A	Uncertain	Potential adverse impacts on the water quality of River Avon.
Middle Severn to Site C	120C	Uncertain	Potential adverse impacts on the water quality of River Avon.
Middle Severn to Site C	120D	Uncertain	Potential adverse impacts on the water quality of River Avon.
Middle Severn to Site C	120B	Compliant	.
Middle Severn to Site C	120E	Compliant	
Middle Severn to Site C	120F	Compliant	
Raise water level at Reservoir C (6% (1400Ml))	122A	Compliant	
Raise water level at Reservoir C (25% (5800Ml))/ Raise water level at Reservoir C (50% (11500Ml))	122B/ 122C	Uncertain	Potential adverse impacts on the ecology of Reservoir C.

Component Name	Component ID	WFD Compliance Assessment	Reason for component not being confirmed as compliant
Raise Dam at Reservoir L (5% (300Ml))/ Raise Dam at Reservoir L (25% (1600Ml))	123A and 123B	Compliant	
Unlock unused Carsington storage /Lower Derwent to Site Q/ L. Eaton/ C. Wilne	125A	Compliant	
Carsington to Site L main	128	Compliant	
Use Blackbrook reservoir to provide additional supply of raw water to WTW B	134A	Compliant	
Use Linacre reservoirs and abstraction licence as a supply to the gird either permanently or as a temporary drought resilience option	142	Compliant	
Supply of water either from the Canals and Rivers Trust (CRT) network/ rivers/ reservoirs/ groundwater sources or from the North (UU) using the CRT network as a transfer route	144B	Compliant	
Little Haywood new WTW on Upper Trent incl main to Meir	150	Compliant	
Broomleys BH	166	Compliant	
Expand Carsington - 10500Ml / Expand Carsington - 16900Ml	187A/187B	Compliant	
Clungunford/Oakley Farm Support	194A/194B	Uncertain	Potential adverse impacts on the flow regime and ecology of River Clun.
Ladyflatte BH Recommission	198	Uncertain	Potential adverse impacts on the flow regime and ecology of the Ecclesbourne Catchment.
WTW E Expansion	14B	Compliant	
E.Midlands Raw Water Storage	31C	Compliant	
E.Midlands Raw Water Storage	31D	Compliant	
Expand Site P	66	Compliant	
Carsington to N Staffs - 20Ml/d	89D20	Compliant	
Carsington to N Staffs - 30Ml/d	89D30	Compliant	
WTW B DO recovery	99D	Compliant	
Site U 120Ml/d	F-120	Compliant	
Preston Brockhurst BHs	162	Compliant	

Component Name	Component ID	WFD Compliance	
		Assessment	Reason for component not being confirmed as compliant
Expand Reservoir T (9m (28700Ml))/ Expand Reservoir T (13 m (45600Ml))	186A and 186B	Compliant	
Much Wenlock Support, Rehabilitation or Redrilling	193	Uncertain	Potential adverse impacts on the flow regime and ecology of Much Wenlock-Farley Brook.
New GW Source in Coven Unit	204	Compliant	
Milford DO recovery	205	Uncertain	Potential adverse impacts on the flow regime and ecology of River Sow.
Ambergate to Mid Nottinghamshire transfer solution	304	Compliant	
Heathy Lea to North Nottinghamshire transfer solution	305	Compliant	
Reservoir C capacity increase (Size A) with transfer main from WTW C to Coventry	310	Compliant	
WTW R to Baslow pipeline capacity increase	313	Compliant	
Enhanced Social Housing Water Efficiency Audit	WE003B	Compliant	
Enhanced Social Housing Water Efficiency Audit	WE004B	Compliant	
Leakage reduction	WE005	Compliant	
Increase in Metering	WE006	Compliant	

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