



WATER FRAMEWORK DIRECTIVE REGULATIONS ASSESSMENT

Final Water Resources Management Plan 2024

South Staffs Water

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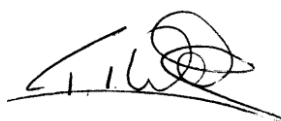
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Front Cover Image:

Blithfield Reservoir, South Staffs Water

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EXECUTIVE SUMMARY

This report outlines the WFD Regulations Compliance Assessment that has been completed to support the South Staffs Water Resources Management Plan 2024 (WRMP24).

Through an extensive optioneering process, considering a wide range of potential options to balance future supply and demand, South Staffs Water has selected the most suitable options to make up the feasible options list. This list includes both demand side and supply side options, of which only the latter require a Water Framework Directive (WFD) Compliance Assessment.

The 16 supply side options that make up part of the feasible options list have been subject to WFD Compliance Assessment against the three core WFD Assessment Objectives:

1. To prevent deterioration of any WFD element of any water body - in line with Regulation 13(2)(a) and 13(5)(a).
2. To prevent the introduction of impediments to the attainment of 'Good' WFD status or potential for any water body in line with Regulation 13(2)(b) and 13(5)(c).
3. To ensure that the planned programme of water body measures in RBMP3 to protect and enhance the status of water bodies are not compromised.

In determining the WRMP24 preferred programme of options, South Staffs Water used the findings of the option-level assessments to inform the programme appraisal process and to determine the preferred programme. The preferred pathway of the preferred programme or any reasonable alternative programmes for WRMP24 do not require any supply options during the planning period of 2025 to 2050 to meet the supply-demand deficit. This is because an ambitious demand management programme provides the required level of savings to meet the forecasted supply-demand deficit. As such, at a programme-level, none of the South Staffs Water programmes preferred pathways require a WFD compliance assessment - with demand management activities assumed WFD compliant.

The adaptive pathway for the preferred programme would lead to Option 2.2.2.1 being implemented if the demand management options are deemed to fall short of target (refer to overarching WRMP24 for further details). Option 2.2.2.1 is assessed as WFD compliant with a low confidence rating. To improve the confidence in this assessment, it is recommended that the potential impacts on the spill regime from Blithfield Reservoir to the River Blithe as a result of increasing the dam height is further investigated. This will allow greater confidence in the pathway to impacting the biological status elements in the Blithe – Tad Bk to R Trent (GB104028046491) river water body. With the adaptive pathway trigger date in 2028, there is sufficient WRMP programme for these investigations to be undertaken prior to the potential implementation of the option in 2036.

Overall, the South Staffs Water WRMP24 is deemed to be compliant against the core WFD Assessment Objective. Neither the preferred programme or the adaptive pathway would assist the attainment of any of progressive WFD Assessment Objectives, though this is not an issue of WFD compliance.

1. INTRODUCTION

This section sets out the background and purpose of this report (**Section 1.1**), explains the Water Framework Directive (**Section 1.2**) and its context in Water Resource Management Plans (**Section 1.3**).

1.1 BACKGROUND AND PURPOSE OF REPORT

Water companies in England and Wales have a statutory requirement to prepare a Water Resources Management Plan (WRMP) every five years. The latest Water Resource Planning Guideline (WRPG) produced by the regulatory bodies¹ (Ofwat, The Environment Agency and Natural Resources Wales) advises that it is the water companies requirement to have regard to River Basin Management Plans (RBMPs) and Water Framework Directive regulations in their WRMPs. This report is driven by this requirement and will demonstrate how South Staffs Water (SSW) have met this requirement in the assessment of their WRMP 2024 (WRMP24) feasible options and preferred plan. South Staffs Water list of feasible options for WRMP24 includes options located in England and Wales.

1.2 THE WATER FRAMEWORK DIRECTIVE

The Water Framework Directive² is an EU Directive establishing a framework for Community action in the field of water policy which aims to protect and improve the water environment. The Directive was brought into UK law in 2003 and subsequently revoked by the Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 in England and Wales. From this point forward “WFD” refers to the legislation applicable to England and Wales, not the EU Directive.

1.3 WFD REQUIREMENTS FOR WRMPs

The purpose of a WRMP is to set out how a water company will achieve a secure supply of water for its customers whilst protecting the environment and is resilient to a range of future challenges more extreme droughts, climate change, population growth.

As part of the WRMP, water companies must demonstrate that they have considered a range of environmental legislation, including the WFD regulations. The requirements for a WFD assessment of a water company WRMP are outlined in the 2023 WRPG (**Box 1**).

Box 1 WRPG 2023

Section 8.2.2. Assessing environmental constraints

“A. River Basin Management Plan and Water Framework Directive

River Basin Management Plan (RBMP) and the Water Framework Directive environmental objectives are a constraint on your options. You should screen out any options that have unacceptable environmental impacts that cannot be overcome.

You should ensure 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. Alternatively if investigations are yet to be completed, you should set out what your alternative options would be should those investigations demonstrate that there will be an unacceptable environmental impact.

You should also assess new supply options against the RBMP measures and objectives for each water body and meet your obligations to avoid future deterioration. You should ensure that your feasible options do not compromise the achievement of RBMP objectives.

You should talk to the Environment Agency or Natural Resources Wales about any intended actions that may:

- *cause deterioration of status (or potential)*
- *prevent the achievement of the water body status objectives in the river basin management plans*
- *prevent the achievement of water body status (or potential) for new modifications*

You should do this as soon as possible before developing your plan. You should make a clear statement in your plan about any potential impacts.”

¹ Ofwat, NRW & EA (2023), Water Resources Planning Guideline – Updated 14 April 2023

² European Union (2000) Directive 2000/60/EC of the European Parliament and of the Council

These WRPG requirements reflect Defra's Guiding Principles for Water Resources Planning³ (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. European Court of Justice (ECJ) ruling⁴ clarified that 'no deterioration' 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 and Heavily Modified Water Bodies 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 methodology align to this ECJ ruling.

It is noted, though not specifically linked to WFD, The Welsh Government Guiding Principles for Developing Water Resources Management Plans (WRMP's) for 2020⁵ outlines that water companies should have regard to Section 6 and Section 7 of the Environment (Wales) Act 2016 when producing their WRMPs. The obligations of this Act are covered in the SEA and Natural Capital/ Environmental Resilience assessments which will be undertaken in parallel to the WFD assessment.

³ Defra (2016) Guiding Principles for Water Resources Planning. May 2016.

⁴ 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]

⁵ Welsh Government (2016), The Welsh Government Guiding Principles for Developing Water Resources Management Plans (WRMP's) for 2020, April 2016

2. METHODOLOGY

The purpose of this section is to set out the approach used when assessing the WFD compliance of the feasible options and preferred plan of South Staffs Water's WRMP24. **Section 2.1** identifies the WFD Assessment Objectives used throughout the WRMP process. **Section 2.2** describes the proportionate level of detail for the assessments.

The assessment approach presented here has been applied to the feasible list of options and preferred programme. It is understood that all schemes have been through a form of high-level WFD screening prior to being included in the feasible list of options. As a result, any options where there are any unalterable WFD constraints, therefore not suitable for promotion, are either not included or are flagged in the feasible list.

All assessments will be undertaken for the reporting unit of a WFD water body. The appropriate baseline information for water bodies status and targets is as published in the third cycle of RBMPs (RBMP3) – listed as the 2019 WFD status (RBMP3 metrics).

2.1 WFD ASSESSMENT OBJECTIVES FOR TESTING COMPLIANCE

This section provides the WFD Assessment Objectives used as a test of constraint when testing WFD compliance at an individual potential option-level (**Section 2.1.1**) as set out in WRPG (2023)⁶. This section also provides the additional, progressive WFD Assessment Objectives that have been assessed at a plan-level (**Section 2.1.2**).

2.1.1 Option-level WFD Assessment Objectives

Principally, the WFD acts as an indicator of constraint and determines where the WRMP or options within do not meet WFD Objectives set out in Regulation 13 of the WFD Regulations. In line with WRPG (2023) and UKWIR (2021) guidance the principle WFD Assessment Objectives that the WRMP (both feasible options and programmes) has been tested against are:

1. To prevent deterioration⁷ of any WFD element of any water body - in line with Regulation 13(2)(a) and 13(5)(a).
2. To prevent the introduction of impediments to the attainment of 'Good' WFD status or potential for any water body in line with Regulation 13(2)(b) and 13(5)(c)⁸.
3. To ensure that the planned programme of water body measures in RBMP3 to protect and enhance the status of water bodies are not compromised⁹.

If an option has been assessed to definitively not comply with the WFD Assessment Objectives set out above then the option has been reported as WFD non-compliant and removed from the WRMP process. This only applies to options for which a clear and obvious conclusion around non-compliance can be reached, and for which no mitigation to provide compliance is possible.

If an option is assessed to potentially not comply with the WFD Assessment Objectives set out above then the option has been reported as potentially WFD non-compliant. If an option is reported as potentially WFD non-compliant it has remained in the WRMP process as it may be appropriate to consider the option further where it is considered that additional evidence to improve confidence in the assessment and/or enhanced design could mitigate the potentially WFD non-compliant issues. It is at the discretion of South Staffs Water as to whether a potentially WFD non-compliant option continues to progress through the WRMP process; however,

⁶ Specifically set out in WRPG 2023 (updated 14 April 2023) at Section 8.2.2

⁷ As defined in Section 1.3

⁸ WRPG (2023) states that this a test to identify any options that 'prevent the achievement of the water body status objectives in the river basin management plan'. At present this is RBMP3. Discussion with EA and through review of EA internal guidance^{#1} identified that the EA consider 'less stringent objectives are not permanent and the assessment of any new activity or project must take into account the need to continue to aim for good status. The new activity or project must not jeopardise the achievement of good status in the future, irrespective of whether a less stringent objective was set in RBMP2'.

^{#1} EA (2021) Supporting implementation of river basin management plans position. LIT 14339. 01/2021

⁹ To date, measures to be delivered in RBMP3, at a water body scale, have not been published and cannot be included in the assessment.

if a potentially WFD non-compliant option is progressed it has been discussed and agreed by the water company with the relevant regulatory body.

2.1.2 Plan-level WFD Assessment Options

The WFD Assessment Objectives in **Section 2.1.1** are the fundamental WFD Assessment Objectives that have been tested against at **both** the option-level and plan-level.

There are a number of further WFD Assessment Objectives, set out in the WRPG, which have been tested against at a plan-level. These further tests have only been applied to a Plan containing options which pass WFD Assessment Objectives 1-3. These are considered as progressive WFD Assessment Objectives rather than tests of constraint and do not lead to WFD non-compliance where they are not achieved. These are as follows:

4. To assist the attainment of the WFD Objectives for the water body – in line with Regulation 13(2)(b) and 13(2)(c)
5. To assist the attainment of the objectives for associated WFD protected areas – in line with Regulation 13(6)
6. To reduce the treatment needed to produce drinking water and look to work in partnership with others; promoting the requirements of Article 7 of the WFD¹⁰.

Furthermore, with reference to plans in Wales additional WFD Assessment Objectives have been identified as appropriate from OGN72¹¹. Again, these are progressive WFD Assessment Objectives rather than tests of constraint and have been tested against at a plan level. These are as follows:

7. To promote the sustainable use of water as a natural resource
8. To conserve habitats and species that depend directly on water
9. To progressively reduce or phase out the release of individual pollutants or groups of pollutants that present a significant threat to the aquatic environment
10. To progressively reduce the pollution of groundwater and prevent or limit the entry of pollutants
11. To contribute to mitigating the effects of floods and droughts.

A negative answer to the WFD Assessment Objectives above does not determine that the plan has WFD constraints; however, they can be used in decision making by the water company.

Where WFD Assessment Objectives 1, 2 and/or 3 are not met by a programme or plan then, unless there is no reasonable alternative, that plan has not been progressed as the preferred plan without discussion with the relevant regulatory body. Discussion with the regulatory body includes:

- If a plan is reported as potentially WFD non-compliant it may be appropriate to consider an adaptive plan where it is considered that additional evidence to improve confidence in assessment and enhanced design could mitigate the potentially WFD non-compliant issues.
- Where a plan is assessed as WFD non-compliant, in circumstances where there is an over-riding public interest or the benefits of achieving the WFD Assessment Objectives are outweighed by benefits to human health, human safety or sustainable development there is scope to apply for a Regulation 19 exemption as to why these WFD Assessment Objectives are not achieved.

2.2 PROPORTIONATE LEVEL OF DETAIL FOR ASSESSMENTS

Throughout the WRMP process WFD compliance has been tested at relevant stages parallel to the wider WRMP programme. The approach taken to test WFD compliance for feasible options and consequent programmes of options is as follows:

1. Option-level Assessment – As set out in **Section 2.2.1**, this is a full assessment that covers the feasible list of options.
2. Programme level assessment – As set out in **Section 2.2.2**, the cumulative effects of the options that make up any Programmes have been assessed.

¹⁰ Specifically set out in WRPG 2023 (updated 14 April 2023) at Section 9.4.5

¹¹ NRW. (2020). Guidance for assessing activities and projects for compliance with the Water Framework Directive. Operation Guidance Note 72

3. Preferred WRMP programme assessment – As set out in **Section 2.2.3**, the preferred WRMP programme for South Staffs Water has been assessed for impacts with other water companies WRMPs and regional plans.

In order to ensure the WFD assessment is proportionate for each stage an outline of the assessment for each stage is provided in this section.

2.2.1 Stage 1 Option-level assessment

Stage 1 is where there is scope for the most detailed assessments. As advocated in the UKWIR (2021) guidance, each option has gone through a process to determine if it is compliant with the three principle WFD Assessment Objectives (as set out in **Section 2.1**). For proportionality of option assessment there are 4 steps with each step becoming increasingly detailed. Where there is sufficient confidence in an assessment's conclusions the option has not progress onto the next step. The four steps are as follows:

- Step 1: Screening based on activities - to either exclude options from further assessment where it could be reasonably expected that the option would not have an influence on any WFD status elements or supporting elements, or identify which activities require progressing to Steps 2 or 3 assessment and in which water bodies (**Section 2.2.1.1**).
- Step 2: Screening based on magnitude of hydrogeological/hydrological impact and water body context- to either exclude options from assessment where they are negligible or low impact, or identify which activities require progressing to Step 3 assessment and in which water bodies (**Section 2.2.1.2**).
- Step 3: Impact assessment – either using existing assessments or an expert judgement approach based on source-pathway-receptor to establish likelihood of compliance with agreed WFD Assessment Objectives in all relevant water bodies. A confidence rating has been given to all assessments to reflect the amount of uncertainty in the design, environmental baseline and magnitude of impact (**Section 2.2.1.3**).
- Step 4: Detailed impact assessment - specific to the option using measured baseline data, including additional bespoke collected evidence, and detail on design and operating pattern. None of the options in this WRMP have been subject to this level assessment. This level of assessment is not proportionate at the WRMP level.

Further detail on how these steps have been assessed is set out below for the option-level assessment.

2.2.1.1 Step 1: Screening based on activities

All options in the feasible list have been subject to this step. Where an option is screened as WFD compliant at this stage it has been accompanied by a robust explanation as to why this assessment can be made without the need to progress the option to Step 2. Instances where there is considered no risk to WFD compliance are identified as:

- Demand management activities;
- Supply options which have passed a sustainability assessment¹² at an abstraction rate up to the proposed option rate;
- Network constraint (i.e. improving infrastructure to achieve greater deployable output) options that do not result in additional abstraction (in comparison to recent abstraction rates), or where that additional abstraction has been identified as sustainable¹³; provided the construction does not affect WFD protected areas or increase the risk of the transfer of INNS.

At this stage, the majority of construction activities can be screened out of further assessment with these activities being mitigatable assuming best practice construction techniques and only being short-term impacts (i.e. will not cause deterioration over the 6-year RBMP cycle).

Where an option is concluded as not compliant with the WFD Assessment Objectives after Step 1 screening, the option has been progressed to Step 2 screening.

¹² e.g. Surface water options WRGIS Band 1, 2 and 3 pass at fully licensed; groundwater options passing WFD groundwater tests; WINEP investigation are identified as sustainable by EA (UKWIR, 2021).

¹³ *ibid*

2.2.1.2 Step 2: Screening based on magnitude of hydrogeological/hydrological impact and water body context

Step 2 screening identifies the water body name, ID and type of any water bodies that could potentially be impacted. The potential impacts are determined by the type of option. The UKWIR (2021) guidance identifies a range of option types and their potential impacts (Table 2-1).

Table 2-1 Potential effects to screen in to WFD assessment by option type

Option type	Impact type to test
New groundwater abstraction, increase in license rate	<ul style="list-style-type: none"> Change in groundwater quantity Impact on groundwater dependent terrestrial ecosystems Impact on connected surface waters (flow change effects on ecology and water quality dilution) Likelihood of saline ingress into aquifer
Aquifer recharge/ aquifer storage and recovery	<ul style="list-style-type: none"> Effects specific to source water used for recharge
Reservoir	<ul style="list-style-type: none"> Impact on connected surface waters (flow change effects on ecology and water quality dilution)
Run-of river abstraction	<ul style="list-style-type: none"> Flow change effects on ecology and water quality dilution
River regulation	<ul style="list-style-type: none"> Flow change effects on ecology and water quality dilution in regulated reach
Reuse	<ul style="list-style-type: none"> Flow and water quality change effects on ecology and chemical status in receiving watercourse Flow and water quality change effects on ecology and chemical status in water course previously receiving discharge
Desalination	<ul style="list-style-type: none"> Hydrodynamic changes on ecology in abstracted water body, including through pathways of salinity and sedimentation pattern change
Inter-basin transfer	<ul style="list-style-type: none"> Flow change effects on ecology and water quality dilution in donor watercourse Direct ecological effects from introduction of invasive non-native species Flow and water quality change effects on ecology and chemical status in receiving watercourse

At this stage the context of the water body will be considered to identify any additional constraints i.e. any protected areas, any planned water body measures in RBMP3.

For any options that are sourced from groundwater a hydrogeologist has determined any local surface water bodies that are hydraulically connected. The impact on both the groundwater water body and the surface water bodies has been assessed. Similarly, any links between lake water bodies and river water bodies have been taken into consideration when assessing options that impact lake water bodies.

Impacts are not confined to the water body where the option is located as the impacts of an option can transverse multiple water bodies. In these instances, assessments have been conducted against each water body in the flow pathway until no WFD compliance risk is identified.

In England & Wales, hydrology is a supporting element to WFD status and is not a status element that contributes directly to WFD ecological status. Regulators' hydrogeological/hydrological assessment tools and their outputs can provide suitable information from which to assess the magnitude of effect. Hydrogeological/hydrological appraisal tasks that have been undertaken are:

- Review the regulatory position¹⁴ on water available for abstraction in an aquifer, reach or catchment, based on modelling tools. The available quantity can be compared with the increase in abstraction

¹⁴ Environment Agency Abstraction Licensing Strategy datasets: <https://data.gov.uk/dataset/b1f5c467-ed41-4e8f-89d7-f79a76645fd6/water-resource-availability-and-abstraction-reliability-cycle-2> (April 2021)

associated with an option. These assessments often include an indication of water availability under different flow conditions which adds specificity to potential operational considerations such as hands-off flow conditions.

- Review the regulatory position on WFD hydrology, including the pass forward flow from rivers to transitional waters¹⁵.
- Review the regulatory position on the extent of influence of flow on status elements failing their targets, including biological status elements, physico-chemical status elements, hydro-morphology and groundwater quantitative status¹⁶.
- For surface waters, review the likely changed river flow regime against measured river flows from nearby gauging stations long-term records held on the National River Flow Archive¹⁷ to inform the magnitude of change in flow.

Where the hydrogeological/hydrological appraisal identifies operational activities that are considered with confidence to be low impact these will be concluded as WFD compliant, subject to review of local WFD protected areas.

2.2.1.3 Step 3: Impact assessment

Where a WFD assessment has not identified an option as WFD compliant through the screening processes of Step 1 and Step 2 the option has been subject to impact assessment.

For each option the construction and operational activities which have been screened in to Step 3 impact assessment are identified. A source-pathway-receptor approach to identifying effects on WFD Assessment Objectives has been undertaken. Using that approach, the source of change is the construction or operational activity. The pathway includes physical environment changes such as water level change, flow velocity change, morphological change. The receptor is the WFD status element.

For a proportionate assessment, WFD status elements have been screened for those at risk of change from water resource plan options. These have been used as the basis of the assessment for deterioration and target impediment WFD Assessment Objectives, with other elements included on a case-by-case basis. Where the pathway of option impact is physical environment changes only (e.g. not to water quality), the sensitive biological status elements (to flow and morphology) are as follows:

- River water bodies: macrophytes, invertebrates, fish
- Lake water bodies: macrophytes
- Transitional water bodies: fish, benthic invertebrate (extent), sea grass (extent)
- Coastal water bodies: benthic invertebrate (extent), sea grass (extent).

Further pathways are dependent on local conditions and local environmental quality pressures such as changes in dilution of point or diffuse pollution pressures, changes in fish passability at structures. Under these circumstances the assessment also considers WFD compliance impacts to physico-chemical water quality, particularly sanitary and nutrient quality which are the main supporting water quality elements to ecological quality, as well as the associated biological status elements to nutrient and water quality pressures. In exceptional circumstances, where there are known discharges of specific pollutants or substances regulated through WFD chemical status, the dilution change of these has been included in the assessment.

Water quality changes are often associated with river flow reductions as a result of the change of dilution of water quality pressures. Existing known pressures are listed by the Environment Agency/Natural Resources Wales' Reasons for Not Achieving Good (RNAG) datasets and these are reviewed for their level of influence.

<https://data.gov.uk/dataset/54181453-b5bd-4694-96b2-a1b5d40985b5/groundwater-management-units-coloured-according-to-water-resource-availability-colours> (September 2020)

Natural Resources Wales Catchment Abstraction Management Strategy datasets:

<http://lle.gov.wales/catalogue/item/WaterResourceReliabilityData> (March 2021)

<http://lle.gov.wales/catalogue/item/WaterResourceAvailabilityData> (March 2021)

¹⁵ In England this is reported by the EA through the RNAG assessment (Reasons for Not Achieving Good status/potential)

¹⁶ *ibid*

¹⁷ <https://nrfa.ceh.ac.uk/data/search>

The impact assessments have been undertaken using expert judgement by a hydroecologist, working with any other appropriate disciplines required, which is considered to be the most appropriate Step 3 impact assessment, utilising a level of confidence indicator.

For groundwater bodies, a hydrogeologist has advised on the outcome of the four quantitative tests and the relevant linked surface water bodies, as well as any of the qualitative tests screened into the assessment. These assessments utilise existing reports or modelling (including regulators regional groundwater models) where readily available or, failing that, expert judgement (noting that no additional modelling has been conducted at this step).

A confidence rating has been assigned to all assessments to reflect the amount of uncertainty in the option design, environmental baseline and magnitude of impact. The confidence level categories that have been used are presented in **Table 2-2**.

Table 2-2 WFD compliance assessment confidence level categories

Confidence category	Description
Low	Known WFD compliance risks/ failures and potential pathways from option's activities - where assessment based on expert judgement alone
Medium	Reasonable levels of evidence for at risk activities. Some assumptions and expert opinion required around risk areas.
High	Good level of evidence with minimal assumptions or low risk activity

2.2.2 Stage 2: Programme level assessment

In order to support programme development, the potential for cumulative effects of different combinations of constrained options has been highlighted. The programme level assessment of WFD compliance contains a list of the options included in the programme, their construction start date and implementation date (to define overlaps in the construction period). Informed through the option-level assessment which already have been set out per water body, a list of all WFD water bodies assessed for the individual options was assimilated. Where more than one option was assessed for the same water body a cumulative assessment has been undertaken of the multiple options, against the agreed set of WFD Assessment Objectives using the methodologies for the option-level assessment. This required the revision of the high level hydrological and/or hydrogeological assessment which underpins the testing of the WFD Assessment Objectives. It is noted that the programme level assessments include any additional linked water bodies which are impacted by the cumulative effect of options (in addition to those that are identified in the option-level assessment) – either downstream surface water bodies, or additional surface water bodies linked to groundwater bodies.

An overall WFD compliance statement for each programme has been prepared setting out compliance with each of the agreed WFD Assessment Objectives and the level of confidence in the assessment.

The results from this level of WFD assessment have been used to inform the preferred water resource plan.

2.2.3 Stage 3: Assessment of the Preferred WRMP

The cumulative impact of the whole WRMP, regional plan and with WRMPs for other water companies has been assessed following a similar process to that identified in **Section 2.2.2**.

A compliance statement of the preferred programme has been presented. This sets out compliance with each of the agreed WFD Assessment Objectives and the level of confidence in the assessment.

2.3 CONSULTATION

A draft WFD compliance assessment methodology report was issued to the regulators (The Environment Agency and Natural England) on 8th April 2021 to set out the method for completing the WFD compliance assessments for the water companies in the WRW region. A meeting was held with regulators on 28th April 2021 and comments on the report were received to get regulatory feedback on the draft methodology report. These comments were addressed and a Final WFD compliance assessment methodology report and comment log were issued to the regulators on 16th July 2021.

Consultation on South Staffs Water's draft WRMP (including the WFD Regulations Assessment Report, Issue 1, 23/09/2022) was undertaken over a period of 14 weeks between November 2022 and February 2023. Comments received during this period informed subsequent changes to the WFD Regulations Assessment Report of the revised draft WRMP24 (rdWRMP24). South Staffs Water received permission from Defra to publish their WRMP24 in a letter dated 21 August 2024. This WFD Regulations Assessment Report will accompany the final WRMP24, both of which will be published in October 2024.

3. OPTION-LEVEL (STAGE 1) WFD ASSESSMENT OUTCOMES

This section outlines:

- The options in the feasible list for South Staffs Water’s WRMP24 that have been subject to WFD compliance assessment.
- The final outcomes of the WFD compliance assessment at an option-level for each of the options in the feasible list for South Staffs Water’s WRMP24.

3.1 FEASIBLE OPTIONS INCLUDED IN THE WFD COMPLIANCE ASSESSMENT

Through an extensive optioneering process, considering a wide range of potential options to balance future supply and demand, South Staffs Water has selected the most suitable options to make up the feasible options list. This list includes both demand side and supply side options, of which only the latter require a WFD Compliance Assessment. The 16 supply side options, which are the focus of the WFD Compliance Assessment, are presented in **Table 3-1**.

Table 3-1 List of South Staffs Water WRMP24 feasible options which have been subject to a WFD Compliance Assessment

Option Category	WRMP24 Ref.	Option Name
River Abstraction	2.1.1.1	40 MI/d capacity raw water abstraction from the Trent to Blithfield
Reservoir storage	2.2.1.1	Increase storage at Blithfield: Increase dam height by 1m
Reservoir storage	2.2.2.1	Increase storage at Blithfield: Increase dam height by 2m
Reservoir storage	2.3.1	Chelmarsh Reservoir 15 MI/d - <2m raising
Reservoir storage	2.3.2	Chelmarsh Reservoir 30 MI/d - up to 2m raising
Reservoir storage	6.1.1	40 MI/d capacity treatment works on the Trent, with 14 day storage
Reservoir storage	6.1.3	70 MI/d capacity treatment works on the Trent, with 14 day storage
Third Party	7.1.2.1	Third Party Option: Canal & River Trust: Birmingham Blithfield surplus
Third Party	7.1.5	Third Party Option: Canal & Rivers Trust: Chasewater options
Third Party	7.5.1.1	UU (United Utilities) Vyrnwy Reservoir raw water release 15 MI/d to River Severn to support SSW
Third Party	7.5.1.2	UU Vyrnwy Reservoir raw water release 30 MI/d to River Severn to support SSW
Third Party	7.5.1.3	UU Vyrnwy Reservoir raw water release 45 MI/d to River Severn to support SSW
Third Party	7.5.1.4	UU Vyrnwy Reservoir raw water release 75 MI/d to River Severn to support SSW
Third Party	8.1.1	Third-party option: potable import
Third Party	8.1.5	Third Party Option: drill new GW source with licence trade
Third Party	8.3.1	Third-party option: new raw water storage reservoir close to the River Trent

3.2 OPTION LEVEL WFD COMPLIANCE ASSESSMENT

This section presents a summary of the option level WFD Compliance Assessment for all options included in the feasible list. It is the outcome of methodological Stage 1; a summary of the screening (methodological Step 1 and Step 2) and impact assessment (methodological Step 3) which are reported in **Appendix A** and **Appendix B** respectively. The option level WFD Compliance Assessment summary is presented in **Table 3-2**. The summary includes those options 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 options passed forward to Step 3 (as assessed in **Appendix B**).

Table 3-2 Option-level WFD Compliance Assessment Summary

Option Name	WRMP24 Ref.	Outcome	Reason, if not confirmed as compliant
40 MI/d capacity raw water abstraction from the Trent to Blithfield	2.1.1.1	Compliant (low confidence)	
Increase storage at Blithfield: Increase dam height by 1m	2.2.1.1	Compliant (medium confidence)	
Increase storage at Blithfield: Increase dam height by 2m	2.2.2.1	Compliant (low confidence)	
Chelmarsh Reservoir 15 MI/d - <2m raising	2.3.1	Compliant (medium confidence)	
Chelmarsh Reservoir 30 MI/d - up to 2m raising	2.3.2	Compliant (medium confidence)	
40 MI/d capacity treatment works on the Trent, with 14 day storage	6.1.1	Compliant (low confidence)	
70 MI/d capacity treatment works on the Trent, with 14 day storage	6.1.3	Compliant (medium confidence)	
Third Party Option: Canal & River Trust: Birmingham Blithfield surplus	7.1.2.1	Compliant (medium confidence)	
Third Party Option: Canal & Rivers Trust: Chasewater options	7.1.5.	Non-compliant (medium confidence)	Non-compliant in the groundwater body Tame Anker Mease - PT Sandstone Birmingham Lichfield (GB40401G301000) due to the potential for deterioration and the potential for the impediment of good status for the quantitative water balance test.
UU Vyrnwy reservoir raw water release 15 MI/d to River Severn to support SSW	7.5.1.1	Compliant (medium confidence)	
UU Vyrnwy reservoir raw water release 30 MI/d to River Severn to support SSW	7.5.1.2	Compliant (medium confidence)	
UU Vyrnwy reservoir raw water release 45 MI/d to River Severn to support SSW	7.5.1.3	Compliant (medium confidence)	
UU Vyrnwy reservoir raw water release 75 MI/d to River Severn to support SSW	7.5.1.4	Compliant (medium confidence)	
Third-party option: potable import	8.1.1	Compliant (high confidence)	
Third Party Option: drill new GW source with licence trade	8.1.5	Compliant (low confidence)	
Third-party option: new raw water storage reservoir close to the River Trent	8.3.1	Compliant (low confidence)	

From all of the options in the feasible list, only Option 7.1.5.2 has been identified as being potentially WFD non-compliant. This is due to this option potentially resulting in additional abstraction from the Tame Anker Mease - PT Sandstone Birmingham Lichfield groundwater body (GB40401G301000) which already has noted water balance pressures and the Shenstone GWMU (Groundwater Management Unit), of which water would be abstracted from, has no water available for abstraction.

4. PROGRAMME-LEVEL (STAGE 2) WFD ASSESSMENT

The WRMP24 does not require any supply options during the planning period of 2025 to 2050 to meet the deficit in the preferred pathway of the preferred programme. This is because the ambitious demand management programme provides the required level of savings to meet the forecasted supply-demand deficit. South Staffs Water has explored a wide range of supply options in parallel and tested both demand and supply options to ensure the preferred programme delivers the best value for both customers and the environment (refer to the overarching WRMP24 for further details). As such, at a programme-level, the preferred pathway of the preferred programme does not require a WFD compliance assessment - with demand management activities assumed WFD compliant.

An adaptive pathway has been set out for the preferred programme. The adaptive pathway includes the introduction of one supply option (Option 2.2.2.1: Increase storage at Blithfield: Increase dam height by 2m) that would be selected if the demand management options are deemed to fall short of target (refer to overarching WRMP24 for further details). Should this adaptive pathway be taken, Option 2.2.2.1 would be implemented (first year of benefit) in 2036.

With Option 2.2.2.1 being the only potential supply option in the preferred plan and its adaptive pathway, there is no potential for cumulative impacts within the South Staffs Water preferred plan for WRMP24. The WFD compliance of the preferred programme adaptive pathway is as assessed in the option-level WFD compliance assessment for Option 2.2.2.1, presented in **Section 3.2**. The option-level assessment for Option 2.2.2.1 has found the option to be WFD compliant with a low confidence rating. To improve the confidence in this assessment, it is recommended that the potential impacts on the spill regime from Blithfield Reservoir to the River Blithe as a result of increasing the dam height is further investigated. This will allow greater confidence in the pathway to impacting the biological status elements in the Blithe – Tad Bk to R Trent (GB104028046491) river water body. With the adaptive pathway trigger date in 2028, there is sufficient WRMP programme for these investigations to be undertaken prior to the potential implementation of the option in 2036.

Neither the preferred programme or the adaptive pathway would assist any of the progressive WFD Assessment Objectives set out in **Section 2.1.2**.

5. PREFERRED WRMP (STAGE 3) WFD ASSESSMENT AGAINST OTHER PLANS AND PROJECTS

Using the WFD compliance assessment of the preferred programme presented in **Section 4**, this section sets out an overview of the WFD compliance of the South Staffs Water WRMP24 preferred programme in combination with other water companies WRMPs¹⁸.

With no supply options required for South Staffs Water's preferred programme for WRMP24, there is no risk of cumulative impacts between the South Staffs Water WRMP24 and any other plans and projects. There is the potential for Option 2.2.2.1 to be triggered as a result of the adaptive pathway of the preferred programme. The review of other water companies WRMPs has identified that there are no options in other water companies WRMPs that would impact consistent water bodies as those potentially impacted by Option 2.2.2.1.

¹⁸ This is based on the latest published iteration of WRMP24 available on the respective water companies websites.

6. WFD COMPLIANCE SUMMARY OF THE SOUTH STAFFS WATER WRMP24

The South Staffs Water preferred programme has been tested against the three core WFD Assessment Objectives (Objectives 1 – 3) and the progressive WFD Assessment Objectives (Objectives 4 – 11). Overall, the South Staffs Water WRMP has been deemed as compliant against each of the core WFD Assessment Objectives with the programme only containing demand management options, which sit outside the scope of the WFD compliance assessment as they are deemed WFD compliant activities, as part of the preferred pathway. The alternative pathway for the preferred programme includes Option 2.2.2.1 which is assessed as WFD compliant with a low confidence rating. To improve the confidence in this assessment, it is recommended that the potential impacts on the spill regime from Blithfield Reservoir to the River Blithe as a result of increasing the dam height is further investigated. This will help to understand the potential physical pathways to impacting the biological status elements in the Blithe – Tad Bk to R Trent (GB104028046491) river water body. With the adaptive pathway trigger date in 2028, there is sufficient WRMP programme for these investigations to be undertaken prior to the potential implementation of the option in 2036. Neither the preferred programme or it's adaptive pathway would assist the attainment of any of the progressive WFD Assessment Objectives.

APPENDICES

Appendix A Option Level Screening

This appendix presents the results of the WFD compliance assessment screening outcomes (methodological Step 1 and Step 2) for all of the options included in the feasible list and indicates whether they were screened in for an impact assessment (methodological Step 3) based on the potential risk of deterioration of WFD status. Where an option has been screened in for an impact assessment, the water bodies that were screened in have also been identified. The outcomes of the screening steps are displayed in **Table A-1**. The impact assessment for the options and water bodies scoped in for further assessment are presented in **Appendix B**.

Catchment management options and distribution management options have been screened out for WFD compliance assessment; these options may have beneficial effects on WFD objectives by improving the local water environment through land-use management and reducing the growth in demand for water.

Table A-1 Option-level WFD screening outcomes

Option name	WRMP 24 Ref.	Water body name	Water body ID	Type	Screened as WFD compliant	Reason screened as compliant
40 MI/d capacity raw water abstraction from the Trent to Blithfield	2.1.1	Trent from River Sow to Moreton Brook Blithfield Reservoir	GB104028047300 GB30435478	River Lake	No	
Increase storage at Blithfield: Increase dam height by 1m	2.2.1	Blithfield Reservoir Blithe - Tad Bk to R Trent	GB30435478 GB104028046491	Lake River	No	
Increase storage at Blithfield: Increase dam height by 2m	2.2.2	Blithfield Reservoir Blithe - Tad Bk to R Trent	GB30435478 GB104028046491	Lake River	No	
Chelmarsh Reservoir 15 MI/d - <2m raising	2.3.1	Chelmarsh Reservoir	GB109054049880	River	No	
Chelmarsh Reservoir 30 MI/d - up to 2m raising	2.3.2	Chelmarsh Reservoir	GB109054049880	River	No	
40 MI/d capacity treatment works on the Trent, with 14 day storage	6.1.1	Trent from Moreton Brook to River Tame	GB104028047290	River	No	
70 MI/d capacity treatment works on the Trent, with 14 day storage.	6.1.3	Trent - R Tame to R Dove	GB104028047180	River	No	
Third Party Option: Canal & River Trust: Birmingham Blithfield surplus	7.1.2.1	Blithfield Reservoir Trent and Mersey Canal, summit to Alrewas Blithe - Tad Bk to R Trent	GB30435478 GB70410142 GB104028046491	Lake Canal River	Yes	Screening based on hydrological impact has identified that there would only be a minor hydrological impact on the canal with any water that is abstracted being supported by water from CRT. Blithfield Reservoir is a heavily modified water body designed for a variable water level. As such changes in the water level of the reservoir would not impact on the in-reservoir environment.
Third Party Option: Canal & Rivers Trust: Chasewater options	7.1.5	Tame Anker Mease - PT Sandstone Birmingham Lichfield Crane Brook - source to Fotherley Brook	GB40401G301000 GB104028046480	Groundwater River	No	
UU Vyrnwy reservoir raw water release 15	7.5.1.1	Vyrnwy - Lake Vyrnwy to conf Afon Cownwy	GB109054049880	River	No	

Option name	WRMP 24 Ref.	Water body name	Water body ID	Type	Screened as WFD compliant	Reason screened as compliant
MI/d to River Severn to support SSW						
UU Vyrnwy reservoir raw water release 30 MI/d to River Severn to support SSW	7.5.1.2	Vyrnwy - Lake Vyrnwy to conf Afon Cownwy	GB109054049880	River	No	
UU Vyrnwy reservoir raw water release 45 MI/d to River Severn to support SSW	7.5.1.3	Vyrnwy - Lake Vyrnwy to conf Afon Cownwy	GB109054049880	River	No	
UU Vyrnwy reservoir raw water release 75 MI/d to River Severn to support SSW	7.5.1.4	Vyrnwy - Lake Vyrnwy to conf Afon Cownwy	GB109054049880	River	No	
Third-party option: potable import	8.1.1	n/a	n/a	Third Party	Yes	This option involves a bulk supply from Company X to SSW. It is assumed that Company X has the water available to supply SSW and, as such, there will be no new potential pathways to impact any WFD receptors in any WFD water bodies.
Third Party Option: drill new GW source with licence trade	8.1.5	Tame Anker Mease Trent - R Tame to R Dove	GB40402G990800 GB104028047180	Groundwater River	No	
Third-party option: new raw water storage reservoir close to the River Trent	8.3.1	Tame Anker Mease Trent - R Tame to R Dove	GB40402G990800 GB104028047180	Groundwater River	No	

Appendix B Option-level impact assessments

This appendix presents the impact assessment (methodological Step 3) for the options that were screened in for more detailed assessment through the screening steps (as set out in **Appendix A**). An impact assessment table has been completed for each water body for each option that has been identified through the screening process.



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