



BRISTOL  
WATER

# draft Water Resource Management Plan 2024 Appendix A

October 2022



**30 September 2022**

# Report

dWRMP24 Assurance Report

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Bristol Water**

making the **difference**

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<b>Rev</b>	<b>Status</b>	<b>Originator</b>	<b>Approved</b>	<b>Date</b>
0	Final	Muhammed Choudhury	Andrew Day	30/09/2022

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## Background

All water companies are required to produce a Water Resources Management Plan (WRMP) which sets out how they intend to achieve a secure supply of water for their customers and a protected and enhanced environment. Companies are required to prepare and publish a plan every five years. The WRMP also helps to inform investment decisions made in companies' periodic Business Plans. It is therefore important that customers and stakeholders can have trust and confidence in the information the draft and final WRMPs contain.

You are due to send the draft version of your next plan (dWRMP24) to the Secretary of State on 3<sup>rd</sup> October 2022, before subsequent publication for public consultation. Alongside this, your Board is required to provide an assurance statement to Ofwat and the Environment Agency confirming:

- you have met your obligations in developing your plan;
- your plan reflects any relevant regional plan, which has been developed in accordance with the [national framework](#) and relevant guidance and policy, or provides a clear justification for any differences; and
- your plan is a best value plan for managing and developing your water resources so you are able to continue to meet your obligations to supply water and protect the environment, and is based on sound and robust evidence including relating to costs.

As part of the wider governance framework that supports your plan development and the Board's assurance statement, you asked us to provide assurance of your dWRMP24 and its components. This report details the assurance we have undertaken and our findings.

## Scope

You asked us to review your approach to producing the following dWRMP24 components, with a particular focus on identifying risks related to guidance alignment, and populating the associated dWRMP data tables.

- |   |  |                                    |
|---|--|------------------------------------|
| ▪ Problem Characterisation              | ▪ Outage   | ▪ Demand forecast                  |
| ▪ Leakage                               | ▪ Population forecast                            | ▪ Deployable output                |
| ▪ Climate change                        | ▪ Target headroom                                | ▪ Decision making modelling        |
| ▪ Options appraisal (including costing) | ▪ Environmental Assessments (SEA/HRA/WFD/BNG/NC) | ▪ Drought vulnerability assessment |
| ▪ Most WRP tables                       |  |                                    |

For clarity, our scope did not cover assurance of the West Country Water Resources Group (WCWRG) Regional Plan, though how your approaches and plan development interacted with the regional plan did form part of our discussions during the audits (see below).

## Approach

For the dWRMP24 components that you asked us to review, we agreed to carry out combined process and data reviews using our standard risk-based approach.

In the audits with your teams, we followed an agreed standard agenda that, consistent with our scope, covered your broad approach to producing each of the above listed components; the consistency of your outputs with your approach; key risks and controls; links to other plans; any supporting narrative available and your population of the dWRMP data tables (where applicable/available at the time of audit). Where table data was not available, we audited the tables later in the assurance window following a risk and sample-based approach to data tracing.

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We assigned grades to each component we reviewed that indicate the level of risk we consider is associated with it (see table below for a summary explanation of the grades). Consistent with our scope, our assessment of risk and materiality was mainly guided by alignment of the component approach to the guidance.

**Table 1 Summary explanation of data audit grades for components reviewed**

Data grade	Summary
A	Low risk associated with approach in relation to alignment with the guidance and its application and completeness (and WRP table production as applicable).
B	Low to medium risk for the above
C	Medium to high risk for the above
D	High risk for the above

We also provided your teams with detailed feedback after each audit that explained our assessment of the risk and set out any actions.

We note that:

- our assessment focused principally on the level of risk associated with compliance with the WRPG and its supporting guidance documents;
- our work is risk and sample based and part of the broader assurance processes you have in place to support your Board in making assurance statements in relation to the whole dWRMP24;
- all our audits have been undertaken remotely using Microsoft Teams.

## Findings

### Overall

Overall, 13 of the 14 audits completed scored B and 1 scored an A, indicating a low or low to medium level of risk. Appendix 1 summarises the overall assurance grades assigned to each component. We have provided detailed feedback to your teams for each component that includes a number of non-material recommendations to consider addressing before draft WRMP submission or ahead of the final WRMP submission in 2023.

### General observations

We set out below general observations and points arising from our assurance. We note that consistent with the grades for the components, none of the observations below are considered material in relation to submitting your dWRMP24.

- During our audits, we observed that much of the component development has been carried out by specialist third party consultants. This has helped you develop a plan based on approaches that appear materially consistent with the guidelines. Where they have not already done so, it will be beneficial for both the final plan and in the event of regulatory challenge, for the consultants to capture their approaches in a way that enables you or them to replicate the outputs. This will also help reduce the risk to you of the consultant teams, for example, being unavailable at key points later in the WRMP development cycle.

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- The majority of our audits, particularly early in the assurance process, focused more on your approach than auditing the data or reviewing plan narrative. This was because, for example: the consultants had applied their own formal quality assurance procedures before handing material over to the company; or the relevant dWRMP tables or narrative had not been finalised at the time of the audit.

We traced populated tables back to assured consultant reports or Bristol Water sources as applicable later in the assurance window. Consistent with some of your tables not going through the same checks and controls you typically apply before audits for regulatory submissions like your annual performance report, we note our sampling did identify some exceptions for the populated data that teams promptly corrected. For example: in table 3 one line was populated using positive figures rather than negative figures as stated in the guidance; in table 4 an incorrect denominator (30 years instead of 25 years) was used in the formula for some data; and, also in table 4, a forecast was incorrectly calculated as a cumulative annual total rather than a daily average.

- In a limited number of areas you have used non-company specific information and we understand you are planning to set out your rationale in your plan narrative. For example:
  - **Options appraisal:** we note your team used industry data for option capex and opex costs as it considered this was more robust than company specific costs given the nature of the options and your comparatively limited experience in delivering them. We recommend the team clearly explains this in its supporting narrative.
  - **Demand forecast:** Due to relatively limited input information on Bristol Water customers, your consultant recommended using an updated forecasting model that contained the best practice observed amongst the WCWRG group.
- Where the WRPG and supporting documents appeared to be unclear or left companies a degree of freedom of interpretation, you and your consultants understood the need to be clear on your interpretation, approach and rationale. For example:
  - **Climate change:** your team considers that the EA's guidance is not prescriptive on which scenarios to use and so it has used a synthesised approach that it considers takes all the UKCP18 projections into account.
  - **Outage:** we understand your outage allowance is based on the 95th percentile, which is higher than the recommended range in the UKWIR guidance of 75-90%iles but is consistent with your approach for WRMP19. The team has also made a number of adjustments to outage events so that the events reflect what outage would have been if the company was resource constrained at the time. As such, the outage in the WRMP will likely be noticeably lower than the actual annual outage reported each year.
  - **Deployable output:** your team stated it has used extreme value analysis (EVA) as opposed to inverse ranking (IR) for the stochastics available at WRMP24, which may drive a higher DO allowance during drought conditions. The approach reflects detailed discussions between the company and its consultants.
- Similarly, we note the EA data tables are materially changed from WRMP19 in some areas, and so setting out clear narrative for where you have interpreted the new table instructions in their population will be important for transparency with the EA and Owat, responding to any clarifications and evidencing any changes between draft and final WRMP24. We understand other companies are also applying interpretations in their data table population, and so there is a higher likelihood of line definition clarifications from regulators post draft submission.
- For three areas of your WRP tables we understand you are proposing to not provide the expected information.

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- **Table 4 unconstrained options** – you do not plan to provide the Gain in WAFU associated with the option as you consider the unconstrained options have not been developed to a level where you can meaningfully define the gain. We note we did not formally review this element of the table as your consultants, whom we audited, considered the population or otherwise of the Gain in WAFU column for unconstrained options sat with you as a company.
- **Table 7c (Totex total base) & Table 7d (Enhancement Expenditure)** – we understand you are not proposing to populate these as you and your consultants are insufficiently clear on the guidance.

You understand that even through explaining your position in your table narrative, not populating these areas of the tables may invite regulatory query and challenge.

- We note that there are a limited number of areas where your team is already considering potential updates to components between your draft and final plans – to reflect more up to date information that will be available for example or to reflect what you expect to be non-material baseline input updates that were timed out of model runs for your dWRMP24.
  - **Population forecast:** ONS data and the final results of 2021 census are due to be published in 2023. You plan to check the ONS and Census data soon after it's published to ensure there is no material impact on your plan. We also note future immigration levels are estimates and may not actualise as forecast.
  - **Drought vulnerability:** during plan development you updated your target headroom figure but are still to re-run your drought vulnerability modelling using this updated figure. You do not consider the impact will be material and will use updated figures for your fWRMP24.
  - **Options appraisal:** your team noted the Environmental Act consultation results on your options could drive changes to your appraisals, which would result in further modelling and potentially a different preferred option set for your final planning scenario.
- In relation to the regional plan, we observed some potential complexity around your Cheddar 2 Strategic Resource Option (SRO) that would take surplus water from your Cheddar Gorge abstraction to a newly built reservoir to supply Wessex. It is currently uncertain whether Wessex will require this SRO so you have decided to present a scenario that forces its selection in your dWRMP24 to help facilitate further dialogue and discussion during consultation on the draft plans across the West Country. You understand the need to explain this clearly in your plan documents.

## Conclusions

Overall, your team has worked hard to produce a dWRMP that is based on processes/approaches that appear materially aligned with the guideline (and its supporting guidance) and reflects your associated wider regional plan.

You understand the plan may change between the draft and final versions due to a number of factors (eg: EA clarifications once it has reviewed all company plans; option consultation results; updated population data) but do not anticipate material impacts to arise from these.

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### Appendix A. Summary of feedbacks and assurance grades

The table below summarises the assurance grades for each component and table audited and sets out the feedback summary from the audit.

**Table A.1: Summary of assurance grades and feedback**

WRMP24 component area	Data grade	Feedback summary
<b>Problem characterisation</b>	A	We did not identify material deviations from the guidance in the team's approach, or in the application of the approach. The approach followed, and the resulting assessment, are consistent with WRMP19. The team considers the wider plan approaches that flow from the problem characterisation are consistent with at least the minimum guideline expectations and in some cases go beyond them. We note we have not yet audited all WRMP components.
<b>Outage</b>	B	We did not identify any material deviations from the guidelines and associated supporting material/requirements. We note there are some final updates still to make to the analysis (eg: to reflect WRMP24 DO figures) and we recommend the team explains some elements of its approach/outputs in its commentary for this component.  We did not sample check the data as the figures are not final and HR Wallingford applies its own QA processes prior to handing over outputs to BRL.
<b>Demand Forecast</b>	B	We did not identify any material deviations from the guidelines and associated supporting material/requirements. We note there are some final updates still to make to the analysis (eg: to reflect WRMP24 DO figures) and we recommend the team explains some elements of its approach/outputs in its commentary for this component.  We did not sample check the data as the figures are not final and HR Wallingford applies its own QA processes prior to handing over outputs to BRL.
<b>Leakage</b>	B	The approach to produce the leakage data appeared to align with guidelines and industry data where appropriate. The process needs to be fully documented once the process is completed.  During the data audit, we observed areas of the RPS model which were not yet finalised e.g., tailoring to BRL, checks and controls over links within the model, and to other datasets on the RPS SharePoint which result in mismatches of source inputs and outputs. The team was working to fix these issues before providing the model outputs to BRL.
<b>Population forecast</b>	B	We note that the team are content with the level of data provided and generated by Experian -and that the BRL team is still working on finalising the dWRMP24 data in this area.  We also note ONS/Census data is due to be published in 2023. The fWRMP is likely to reflect this data, and there is a limited possibility of driving non-trivial changes to the plan. We recommend this likely update is noted in the plan – and that between the draft and final plans, any significant changes are communicated to stakeholders in a timely manner (once they are sufficiently understood).



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<b>Deployable output</b>	B	We did not identify material issues during our sampling. We noted some areas where approach and assumptions could be set out in documentation for clarity, though we understand these have been agreed between Bristol Water, HR Wallingford and Hydro-Logic in the round. E.g. Explaining clearly the rationale for EVA which results in higher DO during droughts compared to IR and a potentially higher implied risk in the WRMP24.
<b>Climate change</b>	B	We identified no material compliance issues with the consultant team's approach to deriving climate change supply side impacts. We note there are some limited choices and checks left for the BRL team to consider as part of integrating the consultant product into the dWRMP.  Other climate change impacts were not in the scope of the audit.
<b>Headroom</b>	B	The team has a good understanding of the process and the data. Atkins updated the original target headroom model it had created in WRMP19 to reflect the requirements for WRMP24 and to reflect the current uncertainty around the headroom components. We note the data is not yet finalised and therefore we have not carried out data sampling. However, the approach is consistent with WRMP19.
<b>Drought vulnerability</b>	B	The team has a good understanding of the process and data for this WRMP component.  However, we note the target headroom figure, which is an input to for this component, has been revised following a recent separate audit. The team stated, due to time constraints, the revised figure has not been used to re-run the drought vulnerability model and analysis. Although the team is not certain of the exact impact until the model is re-run for fWRMP, it considers it is likely to be immaterial.
<b>Options Appraisal (including costing)</b>	B	The approach to options appraisal and costing appeared to align with guidelines and industry data where appropriate – this drives our assessment. We discussed some potential inconsistencies with the team, which it considers justified – eg: <ul style="list-style-type: none"> <li>• Due to the nature of the Cheddar 2 option, there may be some inconsistency in how it is represented in the options appraisal process between the BRL and regional plans.</li> <li>• The use of historic, rather than current, carbon data from BEIS.</li> </ul> During the audit, we observed that the options list was not yet finalised, some assumptions are yet to be agreed with BRL and checks and controls are required on completion. The team are working collaboratively with all parties, including BRL, before formally providing the completed outputs to BRL.
<b>Environmental Assessments (SEA/HRA/WFD/BNG/ NC)</b>	B	The Strategic Environmental Assessment (SEA) process is a qualitative one and the SEA matrices provide detail of the assumptions that have been made about different options.  During the audit, we observed the process and reporting was not yet finalised, some assumptions are yet to be agreed with BRL and checks and controls are required on completion. The team are working collaboratively with all parties, including BRL, before formally providing the completed outputs to BRL.

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<b>Decision Making modelling</b>	B	The approach to the decision making appeared to align with guidelines and industry data. The process needs to be fully documented once the process is completed. During the audit, we observed that the process had not yet been finalised, some figures and assumptions are yet to be agreed with BRL and checks and controls are required on completion. The team are working collaboratively with all parties, including Arup, Ricardo and BRL, before formally providing the completed outputs to BRL.
<b>WRP table audits (carried out after the completion of the component audits above)</b>		
<b>WRP Tables 1, 2, 3, 6 &amp; 7 (excl 7c AP8FP &amp; 7d)</b>	B	The team has completed Tables 1, 2, 3, 6 & the majority of table 7. During our sample checks we identified a number of minor issues that the team plans to correct before plan submission.
<b>WRP Tables 4, 5, 5a-5c.</b>	B	The team has completed the majority of table 4 and tables 5 and 5a-5c. During our sample checks we identified some exceptions. For example, an incorrect formula (30 years instead of 25 years as the denominator) was being used for some data; and another instance where a cumulative annual total rather than daily average figure was being used. We note the team acted promptly to correct these exceptions.
<b>WRP 7c AP8FP &amp; 7d</b>	N/A	Not formally audited
<b>WRP Table 8</b>	N/A	Not formally audited