

Portsmouth Water



REVISED DRAFT WATER RESOURCES MANAGEMENT PLAN 2024

APPENDIX 10A – ADAPTIVE PATHWAY MONITORING PLAN

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TABLE OF CONTENTS

1	Introduction	1
1.1	Our Adaptive Plan	1
2	Monitoring Plan.....	4
2.1	WRSE Monitoring Plan	4
2.2	Portsmouth Water’s Monitoring Plan.....	4

LIST OF FIGURES

Figure 1: Conceptual diagram demonstrating the approach to adaptive planning and definitions for key concepts of adaptive pathways, decision points and trigger points. Adapted from sources: Ofwat, May 2022; Ofwat, April 2022.	1
Figure 2: Portsmouth Water’s Adaptive Planning branches with the core pathway highlighted.	3
Figure 3: Flow chart for reviewing the Adaptive Plan Monitoring Plan	5

LIST OF TABLES

Table 1: Portsmouth Water rdWRMP24 Monitoring Plan	6
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1 INTRODUCTION

This Appendix details our WRMP24 Monitoring Plan which is used to inform our decisions around which of our adaptive planning pathways is the most appropriate to follow as we progress through the planning period.

This appendix first provides a high-level overview to adaptive planning before proposing the details of our monitoring plan.

Adaptive planning is an approach to developing flexible long-term delivery strategies in an uncertain future, by setting out investment options for a wide range of plausible future scenarios or alternative pathways (Figure 1).

The purpose of adaptive planning is to identify flexible low-regret options based on the comparison of optimal solutions for each plausible pathway. Adaptive planning has decision points (where you decide to switch paths) and trigger points (where the investment programme shifts to another pathway).

Please refer to Section 2 of the rdWRMP24 main statutory document for further information on adaptive planning.

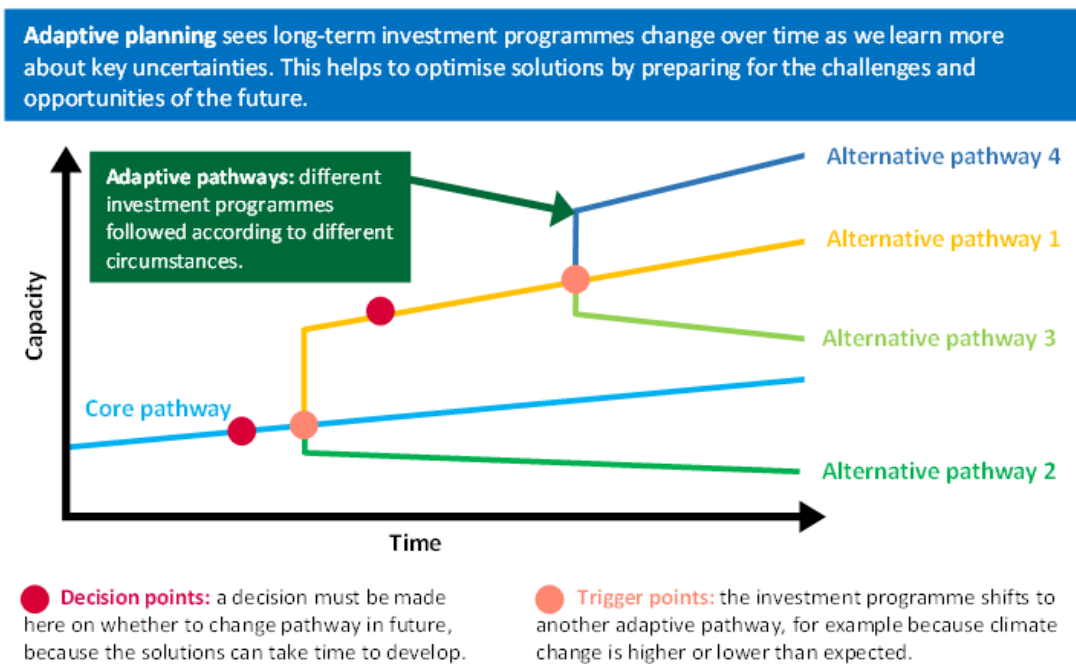


Figure 1: Conceptual diagram demonstrating the approach to adaptive planning and definitions for key concepts of adaptive pathways, decision points and trigger points. Adapted from sources: [Ofwat, May 2022](#); [Ofwat, April 2022](#).

1.1 Our Adaptive Plan

Section 2 and 10.9 of the rdWRMP24 Main Plan provides detailed information on our rdWRMP24 Adaptive Plan. In summary, the Adaptive Plan is focused around three core pathways which are:

- **Stage 1: The root branch (2025 to 2030)** which is based on housing plan growth, medium climate change and current statutory environmental ambitions.

- **Stage 2: The next three branches (2031 to 2035)** include the same environmental ambition and climate change projections but cover a wider range of potential population and household growth scenarios.

Uncertainty within the predictions of future economic and demographic futures presents a challenge for water resource management. The UK government has stated aspirations to accelerate the rate of house building to 300,000 new homes per year. However, the UK's exit of the European Union and the global restrictions on migration presented by the Coronavirus pandemic means that the UK is facing a unique period of uncertainty politically, economically and demographically. The need for robust evidence on future housing growth and demographic change are key requirements to the rdWRMP24.

- **Stage 3: The final set of branches (post 2035)** focus on how alternative environmental ambition scenarios and climate change forecasts could continue to impact on the future availability of water.

Sustainably abstracted water bodies are more resilient to climate change and drought ([EA, March 2020](#)). There is rising awareness that the water bodies in our supply area are under increasing pressure with the assumption that the abstraction of water for public water supply is a component of that pressure. In close consultation with the Environment Agency, we have sought to understand the possible range of reductions in abstraction we might foresee in the future to raise the resilience of water bodies in our area. Exact site by site reduction levels have yet to be established, but to allow this plan to account for this significant pressure, we have modelled the possible impact of reductions as 'environmental destinations'.

Under future climate, we are facing hotter, drier summers, and warmer wetter winters, bringing new challenges to delivering and securing resilience of water resources. Scenarios based on high, medium and low climate change future scenarios have been considered.

These adaptive pathways are demonstrated in Figure 2. The key purpose of the Monitoring Plan is to ensure we identify which adaptive pathway is emerging, ensuring the decision and trigger points are correctly identified.

For Portsmouth Water there are no differences in the investments in Stage 2 resulting from the adaptive pathways and therefore the key trigger point for Portsmouth Water is 2039/40. This results from the implementation of our demand side schemes to meet governmental and regulatory expectations for customer and leakage demand reductions. After 2039/40 the key changes in investment include the delivery of a range of supply side schemes. Please refer to Section 10.9 of the rdWRMP24 Main Plan for further information.

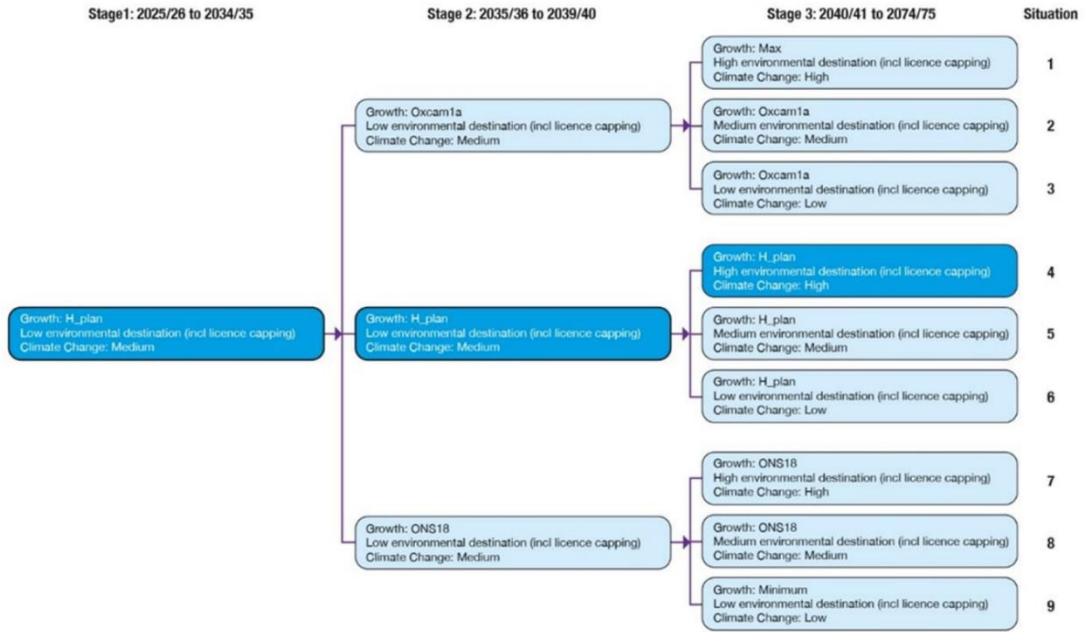


Figure 2: Portsmouth Water's Adaptive Planning branches with the core pathway highlighted.

We have undertaken a range of sensitivity tests for rdWRMP24 for a range of future scenarios, such as the demand reduction not arising. These tests are presented in Appendix 9A. We will monitor these elements as part our monitoring plan (Section 2) which will indicate if alternative actions are needed.

2 MONITORING PLAN

This following section provides information on WRSE and Portsmouth Water's Monitoring Plans.

2.1 WRSE Monitoring Plan

Portsmouth Water's monitoring plan, as set out in this appendix, should be considered in conjunction with the regional monitoring plan established by WRSE. This is detailed in section 19 of the WRSE Regional Plan.

The WRSE monitoring plan will look at the region as a whole. WRSE will publish the outcomes of this regional monitoring plan in an Annual Monitoring Report.

2.2 Portsmouth Water's Monitoring Plan

This section sets out Portsmouth Water's WRMP24 Monitoring Plan.

Table 1 contains details of the components and frequency of monitoring. The Monitoring Plan would be reported annually via the WRMP Annual Review. This will be reported to Regulators and published on our Portsmouth Water website.

The Monitoring Plan has been informed by:

- adaptive plan pathways and trigger points set out in Section 2 of the rdWRMP24 main statutory document (i.e., population growth, environmental destination, and climate change),
- WRMP preferred and alternative options set out in Section 10 of the rdWRMP24 main statutory document, and
- Sensitivity testing set out in Section 9 of the rdWRMP24 main statutory document (i.e. demand benefits not arriving).

If actual annual reported outturn figures indicate that the supply demand balance is outside the range that has been considered in the plan or for the preferred pathway, we will flag how the investment strategies might need to be updated (as detailed in the adaptive pathway).

The monitoring plan and supply demand balance should be reviewed in its entirety each year as whilst one component may be off track (i.e., demand reductions not arising), this could still be immaterial overall if another component is over performing (i.e., leakage reductions greater than forecast).

The longevity of changes to the supply demand balance should be considered when reviewing an adaptive plan pathway. An operational event may look like a significant change in the short term but lose its significance when looked at as part of the annual picture. This approach is summarised in Figure 3.

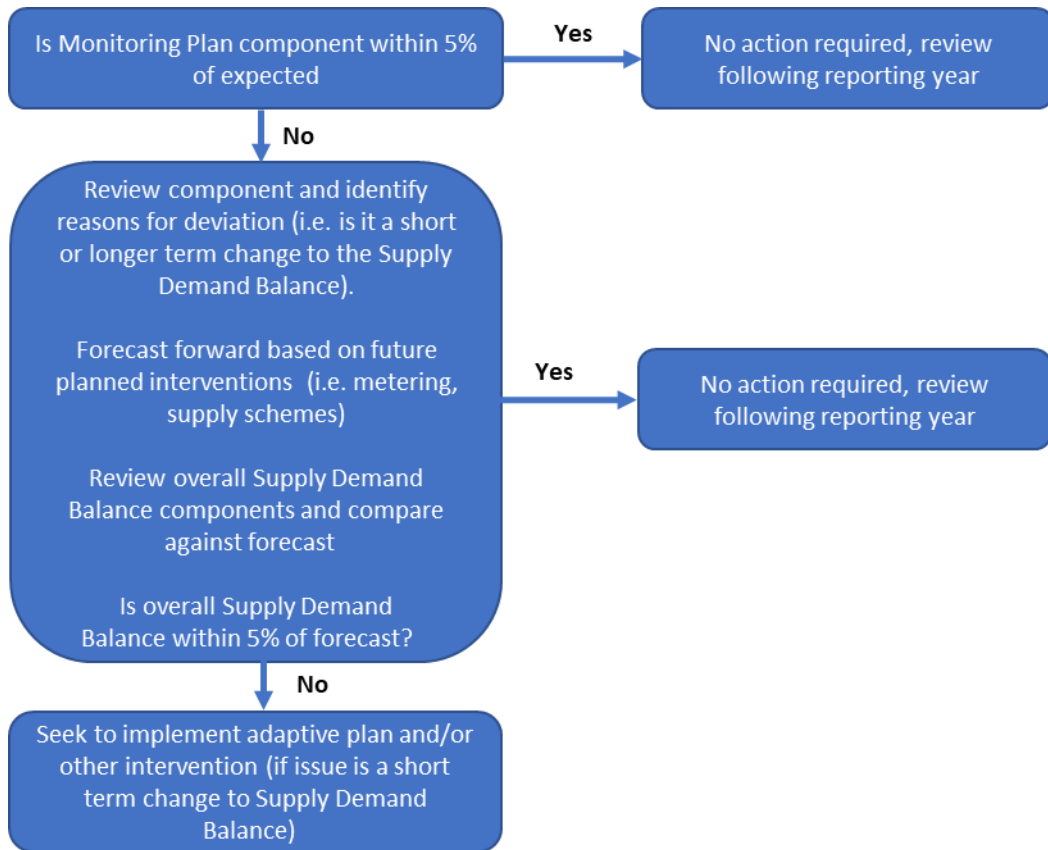


Figure 3: Flow chart for reviewing the Adaptive Plan Monitoring Plan

Table 1: Portsmouth Water rdWRMP24 Monitoring Plan

Component and metrics	Metrics	Annual Review*	WRMP planning cycles**
<p>Measured and forecast population growth and consequential supply-demand impact of changes to distribution input (in MI/d). This includes property numbers and our customer population.</p>	<ul style="list-style-type: none"> • Measured volume to households and non-households, • property counts, and • population 	<p>This component will be reviewed annually via the annual water balance and regulatory reporting. Actual reported figures will be compared to WRMP forecasted figures to determine which adaptive pathway is emerging as closer to reality as it unfolds.</p>	<p>Our forecasted assumptions will be reviewed via the 5-year updates based on ONS and local planning updates as part of the WRMP24.</p>
<p>Climate change impact on deployable output</p>	<p>Percentage impact on deployable output</p>	<p>N/A</p>	<p>Forecast impacts of climate change on deployable output (in MI/d) as updated for WRMP29 and WRMP34 consistent with the latest UK climate projections at the time of forecast.</p>
<p>Environmental Policy (including licence capping) with respect to the timing and prioritisation of the long-term Environmental Destination which in turn will affect forecast impacts to deployable output after the 2035 decision point.</p>	<p>Total MI/d loss of licence reduction and deployable output loss based on investigation outputs</p>	<p>This can be monitored through the AMP8 and AMP9 Water Industry National Environment Programme (WINEP) investigations and options appraisal programme and use this reporting mechanism. The WINEP outputs will detail the scale of the abstraction licence reductions required which in turn informs which of the post 2035 adaptive pathways is the most appropriate.</p>	<p>The AMP8 and AMP9 WINEP investigations will inform future WRMP planning cycles based on sustainability reductions implemented and those which may be required. Future WRMP planning scenarios would also need to consider emerging regulations which may inform future forecasts.</p>

Component and metrics	Metrics	Annual Review*	WRMP planning cycles**
Source S Drought Permit – yield and assessments	Ml/d of yield in a 1-in-500 drought	Assessments will be undertaken from 2023 onwards and reported in the WRMP24 annual review.	Investigations will inform WRMP29 onwards.
Time limited licence variations (currently assumed to be renewed in the baseline)	Ml/d of deployable output change	Assessments will be undertaken in AMP8. Progress will be reported in the WRMP Annual Return	The outcome will be known ahead of WRMP29.
<p>Progress with demand side options (e.g. we are proposing universal smart metering, leakage).</p> <p>This will also include a review of Southern Water progress with demand reductions which link to the future import of water</p>	<p>Ml/d demand savings delivered from various interventions</p> <p>This will include the demand savings per actions (i.e. metering, water efficiency etc) which allows us to understand areas of under or over performance and forecast forward based on planned interventions.</p>	<p>The annual water balance would establish performance with demand reductions. This would be reported via the Annual Review. This would confirm if proposed actions are translating into reduced demand (Ml/d) and PCC in line with target profiles.</p> <p>In line with the Annual Performance Review we would report metering, leakage and water efficiency demand reductions separately to ensure we can determine performance of each measure separately.</p> <p>Whilst not part of the monitoring plan our Water Efficiency Strategy (Appendix 10B, Section 6) and our Leakage Strategy (Appendix 10C, Section 7), detail the in-year monitoring of our strategies to ensure we are on track.</p>	<p>We would review future demand reductions against learning achieved in AMP8. This would inform future demand options and what other interventions are needed.</p>

Component and metrics	Metrics	Annual Review*	WRMP planning cycles**
<p>Drought resilience with respect to progress on supply schemes and how delivery is impacting the supply-demand balance (MI/d). Our key supply side scheme for AMP8 is Havant Thicket Reservoir.</p> <p>This will also include collaboration with Southern Water due to the interlinked nature of our plans.</p>	<p>Delivery dates Expected MI/d benefits</p> <p>This will include a review of the key stages of the project programme (i.e. design, construction etc). We will also review the project risk register to inform of potential future risks.</p>	<p>Our annual WRMP review will also confirm drought plan assumptions and if there is any new data to improve assumptions around the efficacy of TUBs, NEUBs, Emergency Drought Order and supply side permits/orders.</p>	<p>The annual reviews would inform future planning assumptions.</p>
<p>Level of outage</p>	<p>MI/d outage</p>	<p>In year outage would be reviewed via Planned and Unplanned Outage metrics which are reported as part of the Annual Performance Review</p>	<p>Outage assumptions would be refreshed for WRMP29 and WRMP34. This would be informed via previous outage reporting.</p>
<p>Supply Demand Balance (including imports and exports)</p>	<p>MI/d deficit or surplus</p>	<p>The WRMP Annual Review reports a supply demand balance which would be updated inline the with components detailed in this table. This would support in informing risks of a supply demand balance</p> <p>We will also review the imports and exports, linked to potential WFD risks detailed in Appendix 5B.</p>	<p>Supply and demand forecasts will be produced for WRMP29 and WRMP34 based on latest available information and guidance.</p>
<p>*Annual review related to the annual reporting of key metrics and data to the Environment Agency. Each year of the planning period will provide more data about how the supply and demand WRMP24 forecasts compare with actual data and which adaptive pathway may be emerging.</p> <p>**WRMP planning cycles relate to the 5-yearly Asset Management Planning periods. To produce WRMPs, the datasets contributing to supply and demand forecasts will be refreshed.</p>			