# Response to Havant Matters Growth and demand forecasts

## 1 Introduction

Representatives of Havant Matters (havantmatters.org) met with Southern Water's CEO, Lawrence Gosden, on 10th April 2025 to discuss our Water Resources Management Plan 2024 (WRMP24). During the meeting, Havant Matters provided written submissions on issues that are of key concern to them. These are:

1. Growth and demand forecasts used for the Revised Draft WRMP24 (rdWRMP24)
2. Alternative location(s) for Southern Water's abstraction on the River Itchen
3. The site used for locating the water recycling plant as part of the Hampshire Water Transfer and Water Recycling Project (HWTWRP)
4. Leakage reduction
5. Operational practices

Havant Matters had raised these issues in their feedback on the revised draft WRMP24 (rdWRMP24) that was consulted upon from 11 September 2024 to 4 December 2024. We responded to the feedback in our Statement of Response (SoR) that was published on 30 May 2025. This document responds specifically to the document provided to our CEO in relation to growth and demand forecasts for the rdWRMP24. It lists all the issues and provides our responses in the order they were presented by Havant Matters. We aim to respond to all aspects of the submissions however where we do not directly refute particular aspects of the submission this is not to be taken as acceptance or validation.

## 2 Highlighted issues

Each sub-heading in this in this section highlights the issue raised by Havant Matters. The text in blue are the comments provided by Havant Matters. They are reproduced here without any amendments but we have grouped/disaggregated comments where we think a specific response was needed. Each comment by Havant Matters is followed by our response.

### 2.1 Population growth and water supply forecast demand is incorrect

**Havant Matters comment:** *"The information inconsistencies and inaccuracy in rdWRMP24 give rise to serious concerns as to the integrity and credibility of the case made by Southern Water for the immediate need for the effluent recycling project (s) and also, consequently, in public and customer confidence in its dependability and reliability."*

**Southern Water response:** The Water Resources Planning Guideline (WRPG) (Water resources planning guideline - GOV.UK) was updated on 14 April 2023 and is the principal guidance for development of WRMP24 that all water companies in England and Wales are required to comply with. Our calculation of demand forecast complies with the requirements of the WRPG. We hope the information we set out below help clarify the data Southern Water has presented in the rdWRMP24.

**Havant Matters comment:** *"The following Information and data sourced directly from the Southern Water Revised Water Resources Management Plan September 2024 [rdWRMP24]"*

### 2.1.1 Population projections are inconsistent and too high

**Havant Matters comment:** *"There appears significant inconsistency in methodology and resultant conclusions throughout the rdWRMP24 consultation material and especially in relation to population and, consequently, household demand forecasting. The question therefore is which of the population and household forecasts is correct, reliable and relevant, and why is SW[1] using so many varied methodologies and geographic data in such a consultation."*

**Southern Water response:** All of the population and household (HH) forecasts presented in the rdWRMP24 are based on a consistent methodology and developed by a specialist consultancy (Edge Analytics) in line with the WRPG. The methodology used for forecasting growth has been used by all member companies of Water Resources South East (WRSE)[2]. As we explained our plan, we have not used a single growth forecast to inform our plan. We have looked at a range of projections based on different sources of data i.e. local area plans, Office of National Statistics (ONS) etc. All of these projections are relevant and have been used to see the impact on the selection and/or timing of solutions we need to put in place to maintain supply-demand balance well into the future. Havant Matters may consider the growth projections to be 'too high' but they are based on data from local planning authorities and ONS.

The 'baseline' growth forecast is based on data from local planning authorities, in accordance with the WRPG (see Section 6.3 in Water resources planning guideline - GOV.UK), and underpins the numbers produced in the Water Resources Planning (WRP) tables that accompanied the rdWRMP24.

The steps that were taken to develop growth and demand forecasts for WRMP24 are as follows:

1. Edge Analytics provided population and housing growth forecasts to inform the draft WRSE Regional Plan as well as draft WRMP24s (dWRMP24s) of WRSE member companies. The data sources and methodology used by Edge Analytics is described in Annex 7a to the rdWRMP24 Technical Report. Following recommendation from Edge Analytics and in keeping with WRPG, the growth forecast based on Local Area Plans was adopted as the baseline growth forecast.

2. The growth forecasts provided by Edge Analytics were used by Ovarro Connecting Technologies (Ovarro) and Artesia Consulting Limited (Artesia) to develop HH demand forecast (Annex 7c) and non-household (NHH) demand forecast (Annex 7d) respectively. The forecasts were used for the draft Regional Plan and draft WRMP24s of WRSE companies that were published in October 2022.

[1] SW = Southern Water
[2] WRSE includes Affinity Water, Portsmouth Water, SES Water, South East Water, Southern Water and Thames Water.

3. Following the consultation on dWRMP24, Edge Analytics updated the growth forecasts to take account of the latest available information (Annex 7b). HH and NHH demand forecasts were subsequently updated to incorporate the revised growth forecasts and were used for the revised draft Regional Plan and rdWRMP24s of WRSE member companies that were published in August 2023. We did not publish our rdWRMP24 at this stage. We published our rdWRMP24 in September 2024 but there have been no further updates to growth forecast, HH demand forecast or NHH demand forecast. The final WRSE Regional Plan, our final draft WRMP24 (fdWRMP24) and other WRSE member companies' final WRMP24s are based on the growth forecasts from 2023.

**Havant Matters comment:** *"The evidence/ detail*

*In Annex 7a Demand Forecast (@June24) SW is projecting population estimates for time period range 2026-2071, but non-household demand and other analysis in this particular document is based on a different time period 2026-2075"*

**Southern Water response:** Growth and demand forecasts in our WRMP24 cover the period up to 2075 (2074-75). Population figures are given in Annex 7, not Annex 7a. **Error! Reference source not found.** below shows two figures from Annex 7 for HH population and HH demand for Normal Year Annual Average (NYAA) scenario in Hampshire Southampton East (HSE) Water Resource Zone (WRZ).

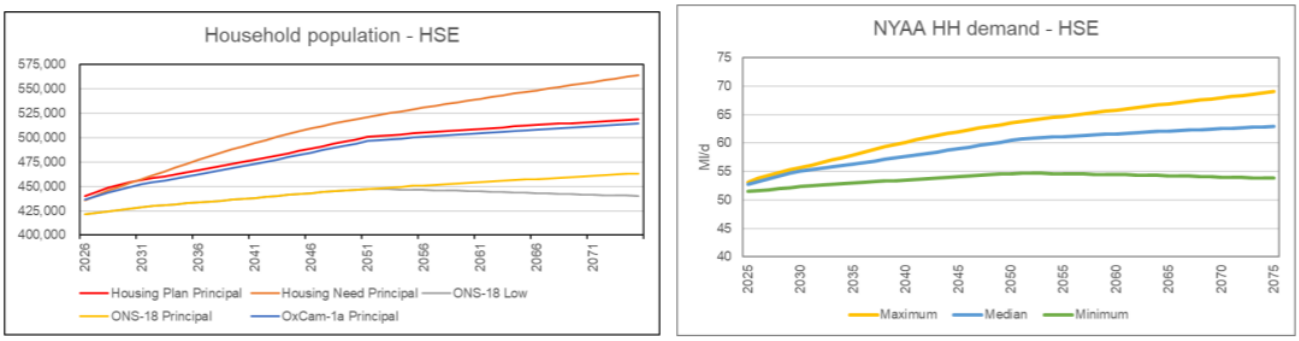


**Figure 1: A screenshot of household population forecast for Hampshire Southampton East Water Resource Zone (HSE) from Annex 7 to rdWRMP24 Technical Report.**

The only difference between the two graphs is that population data covers the WRMP24 planning period (2025-26 to 2074-75) so that starting position is 2025-26 (2026) whereas for the demand forecast, the starting point for the graph is end of the current planning cycle i.e. 2024-25 (2025). The interval between the labels on the x-axis is 5 years in both cases. As the starting position for the population forecast is 2026, the last label on the x-axis is 2071 but we hope it is clear that the data extends beyond 2071 and ends before the next label, which would be 2076. In the case of HH demand forecast, the starting position is 2025 and 5-year labelling interval means the last label on the x-axis coincides with the last data point i.e. 2075. So while the starting position in the two graphs may be different by one year, they both cover the period up to 2075. Therefore there should be no issue in comparing the HH population forecast with HH demand forecast from the graphs.

**Havant Matters comment:** *"Annex 7b (@June23) by WRSE however uses 6 analysis models covering 2021-2050 and then 2021-2100 [Portsmouth Water specific is page 8 and Southern Water specific is page 11]"*

**Southern Water response:** We do not recognise the issue being raised here. It is correct to state that in June 2023 Edge Analytics provided property and population forecasts under 6 different scenarios and these were listed in the report (see **Error! Reference source not found.**).

1.4 In February 2023, WRSE commissioned Edge Analytics to produce updated population and property forecasts, taking account of the latest demographic and housing statistics[2]. The outputs were produced for a **2021–2101** forecast period and for a sub-set of the 2020 scenarios, including:

- ONS-18-Rebased-P
- ONS-18-Rebased-L
- Housing-Plan-P
- Housing-Need-H
- OxCam-1a-r-P.

1.5 An additional scenario was also produced, which was not included in the 2020 forecasts:

- OxCam-1a-P.

**Figure 2: Screenshot of a part of page 2 from Annex 7b to rdWRMP24 Technical Report.**

We used 5 of them in our planning in consultation with WRSE as they covered the full range of growth. Section 5.2.1 of our rdWRMP24 Technical Report includes the text and table shown in Figure 3 below, which lists the 5 growth projections used in our rdWRMP24.

Following the publication of latest WRPG in March 2023, we commissioned an update to our growth forecast jointly with other WRSE companies[23]. For rdWRMP24, we have considered growth under five different projections (Table 5.1) based on data from Local Authorities, ONS and OxCam. These projections cover the range of forecasts used for the rdWRMP24. The revised growth forecast shows that the total population in our supply area in 2075 could range from 2.9 million to 3.6 million (Figure 5.3). This represents 7% (ONS-18 Low projection) to 34% (Housing Need projection) growth in the 2025-75 period (Table 5.2). Growth forecasts at the WRZ level are included in Annex 7.

**Table 5.1: Growth scenarios included in the demand forecast for each WRZ.**

| Scenario | Description |
|---|---|
| Housing Plan Principal[a] (Baseline growth) | A housing-led scenario, with population growth underpinned by each local authority's Local Plan housing growth trajectory. Following the final year of data, projected housing growth in non-London areas returns to the average of ONS-14 and ONS-16 long-term annual growth average by 2050. **This is used as the baseline growth forecast for rdWRMP24.** |
| Housing Need Principal[a] (Maximum growth) | A housing-led scenario, with population growth underpinned by the trajectory of housing growth associated with each local authority's Local Housing Need or Objectively Assessed Housing Need. Following the final year of data, projected housing growth in non-London areas returns to the ONS-14 long-term annual growth average by 2050. |
| ONS-18 Principal[a] (ONS-18) | ONS 2018-based Principal sub-national population projection, using a five-year history (2013-2018) to derive local fertility & mortality assumptions, a long-term UK net international migration assumption of +190k and two-year history (2016-2018) of internal migration assumptions. This scenario has been rebased to the 2021 mid-year estimate. |
| ONS-18 Low[b] (Minimum growth) | Same as above but with a low rate of net migration. |
| OxCam-1a Principal (Oxcam) | New Settlement' 23,000 dwellings per annum scenario, with ca.3,800 dwellings per annum above Housing Plan distributed between Cherwell (20%), Aylesbury Vale (20%), Central Bedfordshire (40%), South Cambridgeshire (20%). |

[a] The Principal long-term scenario incorporates the mortality and fertility assumptions of the ONS 2018-based national population projection Principal scenario, plus its Principal net international migration assumption of +190,000 per annum for the UK in total.
[b] The Low long-term scenario incorporates the mortality and fertility assumptions of the ONS 2018-based national population projection Principal scenario, plus a Low net international migration assumption of +90,000 per annum for the UK in total.

**Figure 3: A screenshot of a part of text under Section 5.2.1 of the rdWRMP24 Technical Report.**

**Havant Matters comment:** *"But Annex 7c (@Jan2021) by Ovarro Connecting Technologies has some interesting information on human domestic activity and water usage yet for a different time period 2019-2099 and is based largely in fact simply on SW/WRSE earlier data"*

**Southern Water response:** As with the comment above, we do not recognise the issue being raised here. The report by Ovarro was issued in January 2021 for dWRMP24 i.e. before the update to population forecast in June 2023 for rdWRMP24. It therefore based the forecast from 2019-20, which was latest year that could be used for basing the forecast, and extends up to 2099-2100 (Figure 4). However, as mentioned above, growth and demand forecasts were revised for the rdWRMP24 and there was no change to the methodology that is described in Annex 7c.

Figure 1: Range of NYAA Distribution Input results

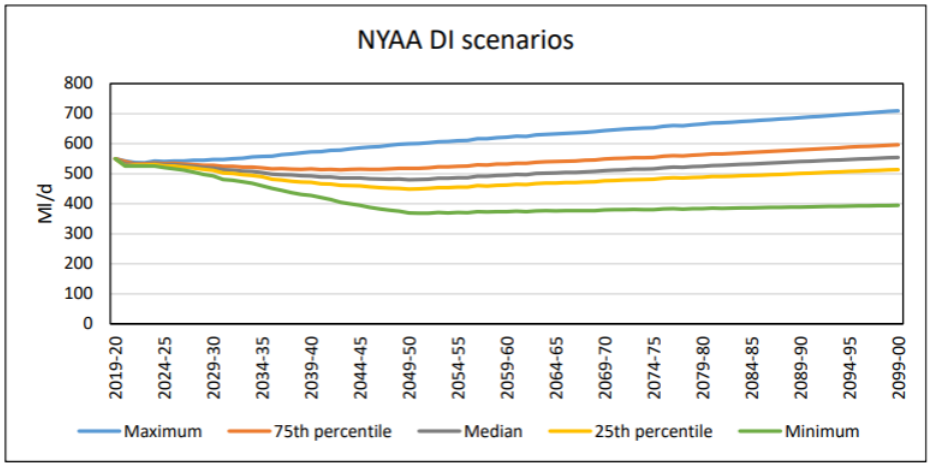


**Figure 4: A screenshot of Figure 1 from Annex 7c to rdWRMP24 Technical Report.**

The growth scenarios used at the time are given in Table 3 of the Ovarro report (Annex 7c). A screenshot is reproduced in Figure 5. The forecasts in the report were based on Southern Water and Water Resources South East (WRSE) data available at the time. The demand forecast was revised for the rdWRMP24 following updates to growth forecasts. However, there was no change in the methodology described in Annex 7c.

## 5.3 Growth

A total of 54 initial scenarios were developed for WRSE regarding population and property growth, with forecast numbers provided to SWS. The method statement published by WRSE on demand forecasting requires 6 growth scenarios to be incorporated into demand forecasts as detailed in Table 3. The ability to apply any of the growth modelling scenarios has been included in the spreadsheet.

Table 3: Growth modelling scenarios list

| WRZ | Baseline scenario reference | Max growth scenario reference | Min growth scenario reference | Median growth scenario reference | Trend based scenario reference | Housing need scenario reference |
|---|---|---|---|---|---|---|
| HA | Housing-Plan-P | Completions-5Y-H | ONS-18-Low-L | ONS-14-P | Completions-5Y-H | Housing-Need-H |
| HK | Housing-Plan-P | Housing-Req-H | ONS-18-Low-L | ONS-18-Alt-H | Completions-5Y-H | Housing-Need-H |
| HW | Housing-Plan-P | Housing-Need-H | ONS-18-Low-L | GLA-18-15Y-P | Completions-5Y-H | Housing-Need-H |
| HR | Housing-Plan-P | Completions-5Y-H | ONS-18-Low-L | Completions-18Y-L | Completions-5Y-H | Housing-Need-H |
| HSE | Housing-Plan-P | Completions-5Y-H | ONS-18-Low-L | Completions-5Y-L | Completions-5Y-H | Housing-Need-H |
| HSW | Housing-Plan-P | Housing-Req-H | ONS-18-Low-L | GLA-18-5Y-P | Completions-5Y-H | Housing-Need-H |
| IOW | Housing-Plan-P | Housing-Need-H | ONS-18-Low-L | Housing-Req-P | Completions-5Y-H | Housing-Need-H |
| SN | Housing-Plan-P | Completions-5Y-H | ONS-18-Low-L | GLA-18-15Y-P | Completions-5Y-H | Housing-Need-H |
| SW | Housing-Plan-P | Housing-Need-H | ONS-18-Low-L | GLA-18-Central-P | Completions-5Y-H | Housing-Need-H |
| SB | Housing-Plan-P | Housing-Need-H | ONS-18-Low-L | GLA-18-15Y-P | Completions-5Y-H | Housing-Need-H |
| KME | Housing-Plan-P | Housing-Need-H | ONS-18-Low-L | Housing-Need-L | Completions-5Y-H | Housing-Need-H |
| KMW | Housing-Plan-P | Housing-Need-H | ONS-18-Low-L | Housing-Plan-L | Completions-5Y-H | Housing-Need-H |
| KT | Housing-Plan-P | Housing-Req-H | ONS-18-Low-L | GLA-18-15Y-P | Completions-5Y-H | Housing-Need-H |
| SH | Housing-Plan-P | ONS-14-H | ONS-18-Low-L | ONS-18-High-P | Completions-5Y-H | Housing-Need-H |

The growth scenarios were provided by SWS.

**Figure 5: A screenshot of Section 5.3 in Annex 7c to the rdWRMP24 Technical Report.**

A screenshot of NHH demand forecast by Artesia (Annex 7d) is shown in Figure 6. The forecast is from 2019-20 to 2099-2100 as is the case for the HH demand forecast presented in Annex 7c. There is no discrepancy in the timeline used for forecasting HH and NHH demand in Annex 7c and Annex 7d respectively.

The comments do not appear to account for the fact that the growth scenarios used for forecasting demand were updated between dWRMP24 and rdWRMP24.

**Havant Matters comment:** *"Then Annex 7d (2020) by Artesia Consulting forecasts over period 2019-2100 using again largely SW data; Finally Annex 7e (July2023) by Artesia Consulting is an update on non-household forecasting only but still appears largely based on SW's earlier research data."*

**Southern Water response:** The data in Annex 7e (NHH demand forecast used for rdWRMP24) is from 2019-20 (2020) to 2099-2100 (2100) as in Annex 7d (NHH demand forecast used in dWRMP24) (see Figure 7). There is no inconsistency. We would also like to highlight that it is appropriate to use Southern Water's data to calculate the demand forecast as it is the best available source of population data for our supply areas.

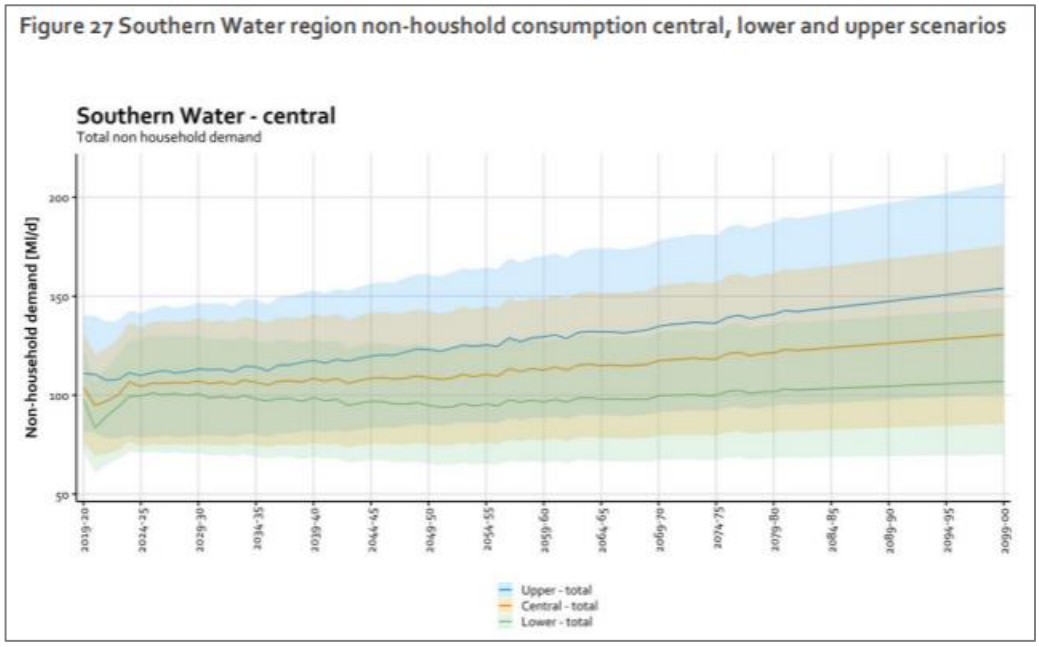


**Figure 6: A screen of Figure 27 in Annex 7d to rdWRMP24 Technical Report.**

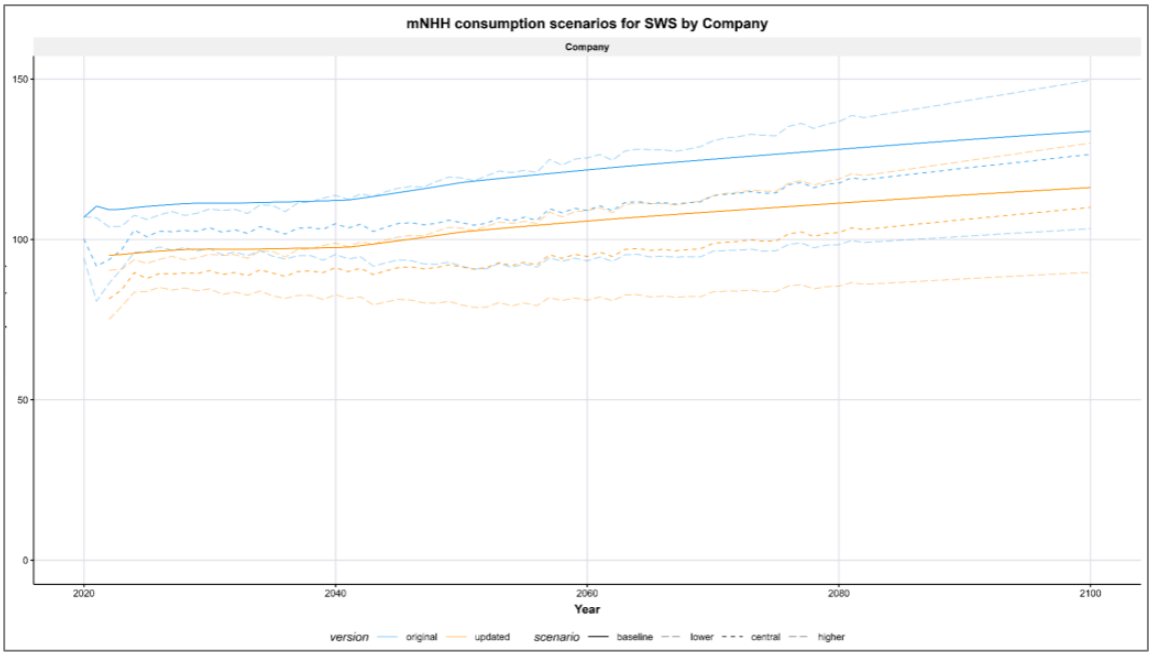


**Figure 7: A screenshot from Annex 7e to the rdWRMP24 Technical Report.**

**Havant Matters comment:** *"Annex 14 however, only has a single bullet point statement of "Population in our supply area is forecast to increase 17% from 2025 to 2050" but does not qualify whether this 17% is solely in relation Southern Water catchment, or, combined and inclusive of Portsmouth Water and it also does not explain its underlying methodology."*

**Southern Water response:** The phrase 'in our supply area' should be taken to mean the Southern Water supply area. We have not quoted joint growth figures with Portsmouth Water in any of our rdWRMP24 documents and do not see the reason for any confusion here.

**Havant Matters comment:** *"Furthermore, SW's Consultation Summary page 18 part 5 simply states "the population will grow between 7% and 34% from 2025-75" which is rather vague and just regurgitates the absolute highest and absolute lowest values of any analytical model"*

**Southern Water response:** We would hope that this statement is clear in that it provides the range of population growth forecasts between the lowest and the highest projections over the 2025-75 period in our rdWRMP24.

**Havant Matters comment:** *"...and the full Technical Report page 81 SW is presenting forecast data in the same presentation analysis model manner as used by WRSE in Annex 7b but on page 80 uses timeline 2025-75 (23% baseline growth forecast for rdWRMP), and shows very different values, which, unlike Annex 7b, are combined and the narrative indicates these are in fact the UK consolidated forecasts and not specific to SW's catchment area."*

**Southern Water response:** We are unclear of the issue that is being referred to here. Page 81 of our rdWRMP24 Technical Report discusses uncertainty (Section 5.4 in the report). However, the values for the baseline growth forecast would be different from the minimum and maximum range as they are for a specific (i.e. baseline) scenario. Please see the screenshot of Table 5.1 in the rdWRMP24 Technical Report in Figure 3 above which clearly identifies the scenario (Housing Plan Principal scenario) that is used as the baseline growth scenario. We have not used consolidated UK forecasts for growth or demand anywhere in our plan.

### 2.1.2 Concerns

- **Havant Matters comment:** *"The SW rdWRMP is using a higher population growth forecast than was used in the draft plan."*

  **Southern Water response:** . Based on a review of the table below, it can be seen that population growth forecasts for rdWRMP24 were not universally higher than dWRMP24 forecasts. Baseline and ONS18 forecasts were actually lower. See Figure 8 below which is taken from Table 5.1 in rdWRMP24 Technical Report and provides the comparison

Table 5.2: Net growth in the selected scenarios and comparison with the dWRMP24 forecast.

| Growth scenario | Net growth (2025-75) | Corresponding growth projection | Net growth (2025-75) in dWRMP24 | Corresponding growth projection in dWRMP24 |
|---|---|---|---|---|
| **Household population** | | | | |
| Baseline | 23% | Housing Plan Principal | 24% | Housing Plan Principal |
| Maximum growth | 34% | Housing Need Principal | 33% | Housing Need High |
| Minimum growth | 7% | ONS-18 Low | 6% | ONS-18 Low |
| ONS-18 | 12% | ONS-18 Principal | 16% | ONS-18 Principal |
| Oxcam | 24% | Oxcam-1a Principal | | |
| **Household properties** | | | | |
| Baseline | 32% | Housing Plan Principal | 35% | Housing Plan Principal |
| Maximum growth | 43% | Housing Need Principal | 46% | Housing Need High |
| Minimum growth | 15% | ONS-18-Low | 16% | ONS-18 Low |
| ONS-18 | 21% | ONS-18 Principal | 27% | ONS-18 Principal |
| Oxcam | 32% | Oxcam-1a Principal | | |

**Figure 8: Screenshot of Table 5.1 from rdWRMP24 Technical Report showing the comparison of household growth forecasts in rdWRMP24 and dWRMP24.**

- **Havant Matters comment:** *"SW are using a 23% population growth forecast, even though Annex 14 (Section 1.1) indicated population in the supply area is only forecast to increase by 17% (2025 - 2050)"*

**Southern Water response:** A 17% increase in population by 2050 is not inconsistent with a 23% increase by 2075. They refer to forecast growth over different time spans. We quote growth up to 2050 in Annex 14 (Demand Management) because the targets by the Government for reducing Per Capita Consumption (PCC) and leakage are set for 2050. We have therefore provided growth forecasts and estimated savings from various demand management initiatives up to 2050. Our plan period is up to 2075 but we aim to hold our PCC and leakage at the 2050 level with no further change.

- **Havant Matters comment:** *"Ofwat confirmed that water companies could (should?) use the much lower Office of National Statistics (ONS 18) population growth, the figures that most closely align with the core strategy in Ofwat guidance (Technical Note page 118 referred). Page 80/81 - Office of National Statistics data suggested growth could be as low as 6% with a maximum ONS-18 net growth of 16%, much lower than the figure SW have chosen to use in their forecasting."*

**Southern Water response:** We included the ONS18 growth population forecast as one of the growth scenarios considered in our plan (see screenshot of Table 5.1 from our rdWRMP24 Technical Report in Figure 3. However, the WRPG explicitly requires us to use growth figures based on local area plans. Figure 9 is a screenshot of the relevant WRPG section.

### 6.3 Forecast population, properties and occupancy

**England**

Your planned property and population forecasts, and resulting supply, must not constrain planned growth. For companies supplying customers in England you should base your forecast population and property figures on local plans published by the local council or unitary authority. Local authorities will be at different stages of publication of their local plans. You can find the latest list of local plans on GOV.UK.

**Figure 9: Screenshot of WRPG section on growth forecast (Water resources planning guideline - GOV.UK).**

Our dWRMP24 had the same growth rates from ONS18 quoted by Havant Matters above. They were however revised for rdWRMP24. The forecast under 'low' scenario increased from 6% to 7% between dWRMP24 and rdWRMP24, but the net growth under ONS18 reduced from 16% in dWRMP24 to 12% (see Figure 8 above).

Our plan does not rely on a single growth forecast. We have adopted an adaptive planning approach that looks at 9 different future supply-demand balance scenarios. Growth is one of the factors used for developing adaptive pathways. Of the 9 supply-demand balance situations considered in our plan, 3 (Situations 7-9) are based on ONS18 data (see Figure 10).

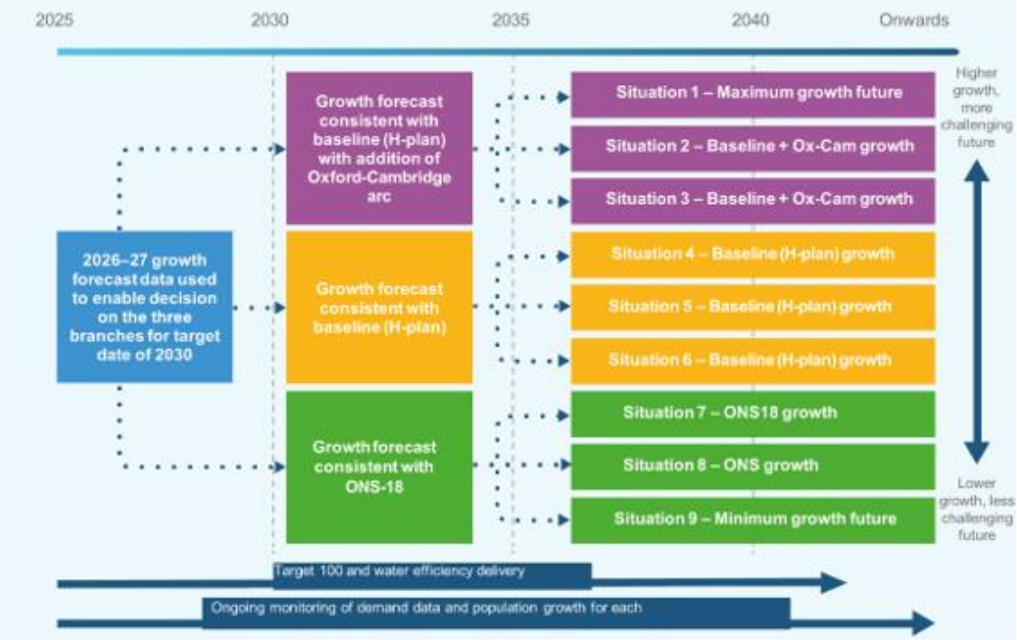


**Figure 10: A screenshot of Figure 5.28 from our rdWRMP24 Technical Report.**

- **Havant Matters comment:** *"Given a falling birth rate, forecasting based on 23% population growth is excessive and not credible."*

  **Southern Water response:** We have followed regulatory guidance and engaged expert independent consultants for developing growth forecasts. We consider our growth forecasts to be robust. Birth rate is not the only factor contributing to future population growth.

## 2.2 Demand supply forecasting appears wholly incorrect

**Havant Matters comment:** *The presented numbers for 2075-2100 household and non-household consumption in the WRMP24 consultation materials are dubious in relation to the SW projected water supply needs.*

**Southern Water response:** Future water needs are not driven by growth alone. As set out in Southern Water's plan, the need to reduce the amount of water we currently take from rivers and groundwater, in order to protect and enhance the environment, is a key driver for our plan.

**Havant Matters comment:** *"We learn from Lawrence Gosden in his Introduction section to the rdWRMP24 Consultation Summary that SW currently has 2.6 million customers.*

*The consultation materials go on to state SW currently supplies 565 million litres of drinking water per day (presumably inclusive of the 19% lost through leakage in addition to the 3% between source and purification) and that by 2075 it will need to supply an additional 587 million litres per day. [Consultation Summary page 4].*

*The total supply requirement by 2075 we are given to believe would therefore then be 1,152 million litres / day. Given the likely rounds of proof reading and sign-off prior to publication release this cannot be a typo or error!"*

**Southern Water response:** This is based on a misreading of the numbers. The 'need for new water' is different from 'additional supply'. Let us assume Southern Water is currently taking 100 million litres per day

(Ml/d) from a source out of the 565Ml/d it supplied in 2023-24. If that source is going to become unavailable post 2029-30 in order to protect and preserve the environment, then Southern Water will need to find 100Ml/d from 2030-31 even if there is zero growth between now and then. The 'need' for 100Ml/d by from 2030-31 does not translate into a 100Ml/d 'additional supply' from 2030-31.

We have amended the text in the revised Non-Technical Summary published on 30 May 2025 along with our final draft WRMP24 to avoid any confusion in this regard.

**Havant Matters comment:** *"But how did Southern Water get to that very high number? – as it makes no sense."*

Hopefully, the answer provided above provides that explanation.

**Havant Matters comment:** *"The evidence/ detail:*

*We learn from the Technical Report (page 80) that by 2075 the SW catchment area population forecast is between 2.9 million (using SW's 7% lowest forecast) and 3.6 million (using SW's 34% highest forecast). But 2.6 million increased by 7% actually is 2.782m (not 2.9m) and a 34% increase would be 3.484m (not 3.6m)."*

**Southern Water response:**

The base-year for rdWRMP24 was 2021-22. Our total population for 2021-22 was 2,632,356 i.e. 2.6 million as quoted by Lawrence Gosden.

Total population in 2024-25, under the baseline forecast scenario, is 2,707,433 as shown in our Water Resources Planning (WRP) tables, which were available in our Durrington office for inspection alongside the rdWRMP24 documentation. If this figure is used, you can see that the table in the rdWRMP24 Technical Report (page 80) is accurate showing just under 2.9m population for the lowest (7%) growth projection and just over 3.6m for the highest (34%) growth projection.

**Havant Matters comment:** *"- A significant inconsistency."*

**Southern Water response:** As set out above, we hope this is now clear.

**Havant Matters comment:** *"Using alternatively the stated baseline of 23% per Page 81 Table 5.2, this would still only give us 3.198m population in 2075. - Another inconsistency."*

**Southern Water response:** As explained above, Table 5.2 gives the growth rate between 2025 and 2075, not between 2022 and 2075. If values in Table 5.2 were worked out from the 2021-22 population, the equivalent net growth rate to 2075 would be 26.6%

**Havant Matters comment:** *"Using, though, the highest possible 34% (3.6m) population growth and assuming 110 l/day target customer consumption is indeed actually achieved then SW would need to supply only 396 million / day total all-in."*

Our WRP tables present results for supply-demand balance Situation 4 which is the pathway agreed between all WRSE partner companies for WRMP24 planning (baseline growth forecast, high climate change impact, high Environmental Destination) for 1:500 drought under average and peak demand conditions.

As shown in our WRP tables, HH demand in 2074-75 under 1:500 average conditions would be 341Ml/d. This number can be calculated from Table 3c by taking the sum of lines 14FP and 15FP for each WRZ and subtracting the sum of lines 25FP and 26FP for the year 2074-75. Under non-drought conditions, HH consumption would be 307Ml/d (value for 2074-75 in line 1NY in Table 2a).

**Havant Matters comment:** *"If we assume however that consumption remains at its current 128 litres / day per person, then for 3.6m population we would still only need 450 million litres / day all-in."*

**Southern Water response:** As shown in our WRP tables, average HH consumption in 2074-75 under 1:500 drought conditions, without any demand reduction, would be 445Ml/d. This number can be calculated from Table 3a by taking the sum of lines 14BL and 15BL for each WRZ and subtracting the sum of lines 25BL and 26BL for the year 2074-75.

**Havant Matters comment:** *"Turning our attention now to the non-household [NHH*] forecasting, the Artesia report tells us that SW estimates in 2025 NHH will consume 115 million litres / day (within a range of 71-142 ml/d) and by end of the planning period which is stated in this report to be 2100 it says SW will need to supply NHH of 122 ml/d (within a range of 107 – 207 ml/d).*

**[Non-Household NHH is defined as agriculture and other dependent industries, non-service industries, service industries population driven, service industries economy driven and unclassified]."*

**Southern Water response:** As shown in our WRP tables, NHH demand is forecast to be 107Ml/d by 2074-75. This number can be calculated from Table 3c by taking the sum of lines 12FP and 13FP for each WRZ and subtracting the sum of lines 23FP and 24FP for the year 2074-75.

*"So……using the highest forecast figures presented by SW (34% growth) the final and more accurate worst case numbers for 2075 would therefore likely be:*

*(3.6 million x 110 l/d) + 122 ml/d = 518 ml/d*

*or*

*(3.6 million x 128 l/d) + 122 ml/d = 572 ml/d"*

**Southern Water response:** Total demand (Distribution Input or DI) is more than the sum of HH and NHH demand. See the equation below.

DI = HH demand + NHH demand + leakage + water taken unbilled + operational use (water used at our sites) + headroom (the allowance made to account for uncertainty in supply and demand forecasts)

As shown in our WRP tables, total demand for water in 2074-75 under 1:500 average scenario, after achieving demand management targets, would be 513Ml/d. This number can be calculated as follows:

| | |
|---|---|
| HH demand: | 341Ml/d (see above) |
| NHH demand: | 107Ml/d (sum of lines 12FP and 13FP for each WRZ and subtracting the sum of lines 23FP and 24FP for the year 2074-75) |
| Leakage: | 49Ml/d (sum of line 29FP in Table 3c for all WRZs for 2074-75) |
| Water taken unbilled: | 13Ml/d (sum of line 21FP in Table 3c for all WRZs for 2074-75) |
| Operational use: | 3Ml/d (sum of line 22FP in Table 3c for all WRZs for 2074-75) |

As shown in our WRP tables, without any demand management, our total demand in 2074-75 under 1:500 average scenario would be 657Ml/d as follows.

| | |
|---|---|
| HH demand: | 445Ml/d (see above) |
| NHH demand: | 119Ml/d (sum of lines 12BL and 13BL for each WRZ and subtracting the sum of lines 23BL and 24BL for the year 2074-75) |
| Leakage: | 77Ml/d (sum of line 29BL in Table 3c for all WRZs for 2074-75) |
| Water taken unbilled: | 13Ml/d (sum of line 21BL in Table 3c for all WRZs for 2074-75) |
| Operational use: | 3Ml/d (sum of line 22BL in Table 3c for all WRZs for 2074-75) |

Using our WRP tables would have also shown that the water we can abstract from our sources (Deployable Output) reduces by 273Ml/d by 2074-75 under 1:500 average conditions.

**Havant Matters comment:** *"Yet we are told 1,152 million litres per day is needed. Where is the maths to support this??"*

**Southern Water response:** The 1,152Ml/d is the sum of our 2023-24 Distribution Input (565Ml/d) and our maximum projected supply-demand deficit under 1:500 conditions (587Ml/d). This is incorrect.

As shown in our WRP tables, the supply-demand balance deficit that we are trying address for Situation 4 under 1:500 average conditions is 564Ml/d. This is calculated as follows:

Supply-demand balance = Water available for use – (Distribution Input + Headroom)

| | |
|---|---|
| Water available for use: | 110Ml/d (sum of line 11BL in Table 3c for all WRZs for 2074-75) |
| Distribution Input: | 657Ml/d (see above) |
| Headroom: | 17Ml/d (sum of line 48BL in Table 3c for all WRZs for 2074-75) |

Supply-demand balance = 110 – (657 + 17) = 564Ml/d

All these numbers can be verified from the WRP tables that were made available at our Durrington office. The WRP tables accompanying our fdWRMP24 can also be viewed online here.

**Havant Matters comment:** *"This is a very significant inconsistency which needs to be fully explained and / or corrected."*

**Southern Water response:** As shown above, we believe there is no inconsistency. An impression of inconsistency is created by adding 2023-24 DI with maximum supply-demand balance deficit figure from the Non-Technical Summary document and comparing it with the sum of assumed HH and NHH demand.

### 2.2.1 Concern

- **Havant Matters comment:** *"If indeed incorrect and overstated as this analysis suggests, then this will fundamentally distort any operational and infrastructure solution costs and cost to benefit analysis conclusions of most if not all business cases based upon it, and especially in relation to the effluent recycling strategy."*

- **Southern Water response:** As shown above we do not believe our supply-demand balance figures are incorrect or overstated.

- **Havant Matters comment:** *"How could the rdWRMP24 consultation material have passed through the drafting, review and approval stages by the consulting company engaged for this purpose and of course SW's own senior officer signed off?"*

  **Southern Water response:** The rdWRMP24 consultation material was signed off for publication after going through internal reviews as well as independent external assurance.

- **Havant Matters comment:** *"The rdWRMP24 document and appendices almost seems to have been constructed as if seeking to impress a paymaster by its sheer volume and perhaps on a payment per page basis and not necessarily for its factual quality content, accuracy and clarity. And it certainly does not reflect favourably upon Southern Water in seeking to regain the lost trust of public and its customers."*

**Southern Water response:** We  hope it is now clear, based on our explanation above, that our rdWRMP24 growth figures have been prepared following best practice and to comply with the requirements of the WRPG, and that forecasting future water needs goes beyond considering population growth alone.