



Draft Water Resources Management Plan 2024

Tables Supplementary Note

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This supplementary note provides clarifications regarding information presented in our WRMP tables. This includes any assumptions which have been made, and any areas where there may be small deviations from the template or guidance.

Table & Row	Clarification, or Deviation & Explanation
All	Input data for all tables begins in 2021/22 and extends to 2074/75, aside from Table 2a where we include information for 2019/20 and include additional information below to assist Ofwat. Some cells beyond this which are populated by EA formulas may have values; however, no data beyond the range stated should be used.
Table 1	The methods used in the production of DO values in Table 1 lead to the calculation of a '1 in 500-year source deployable output' value for each source, as opposed to the 'contribution towards 1 in 500-year WRZ DO'. As such, any conjunctive use impacts are not assigned to individual groundwater source DOs. In some cases, e.g. Gatehampton, this has involved stating a 'static' source DO where the contribution to WRZ DO within our modelling is more dynamic.
Table 1	Values adopted in Table 1 are aligned with AR22 source Deployable Output values, reflecting the point in time at which the supply forecast was derived. As such, some source DO values will not align with our recent AR23 Annual Review. An exception to this rule is the Nonsuch source, for which a 0 MI/d DO is stated in this table, as the DO reduction was confirmed earlier in the year.
Table 1 and Table 3	<p>There are some inconsistencies between transfers included in Table 1, and those that feature in our baseline SDB in each WRZ's Table 3.</p> <p>One aim of WRSE was to determine those existing transfers between WRSE companies which may be inefficient/unnecessary, either now or in the future.</p> <p>We have several transfers with WRSE companies which feature in our current baseline, e.g., transfer to Affinity Water at Fortis Green. Most of these transfers are contracted to exist in perpetuity, but could be terminated with the consent of both companies.</p> <p>Considering that all transfers between WRSE companies could be terminated via collaboration through WRSE, within our modelling we decided that most transfers between WRSE companies should be considered as 'options' (with no cost of construction), rather than 'baseline'</p> <p>All of those transfers which feature in Table 1 are in our current 'baseline', but those which it would be feasible to terminate have been considered as 'options'.</p> <p>Transfers to NAVs, and transfers to companies outside WRSE have been considered as baseline.</p>
Table 2a – All	<p>We have included figures below for 2017-18 and 2018-19, according to our most recent water balance back-cast.</p> <p>In our dWRMP, values presented were representative of uplifts/downlifts to a Normal Year weather scenario. In our rdWRMP24, the methods used to calculate the values presented in the tables are described below.</p>

Table 2a – 1NY	<p>Values for this line have been calculated using the following steps:</p> <ul style="list-style-type: none"> • 2017-18 – 2022-23: outturn values <p>2023-24 onwards: 2NY multiplied by our forecast of population for the LA plan scenario</p>
Table 2a – 2NY	<p>Values for this line have been calculated using the following steps:</p> <ul style="list-style-type: none"> • 2017-18 – 2022-23: outturn values • 2023-24 – 2024-25: our most recent outturn PCC forecast for the rest of the AMP, according to forecast delivery of metering and water efficiency measures. <p>2025-2026 onwards: we have assumed that the PCC reduction on which our DYAA demand management plan (including government-led savings) is based would reduce NY PCC by the same amount, and so have calculated values by adding PCC year-to-year changes to 2024-25 values.</p>
Table 2a – 3NY	<p>Values for this line have been calculated using the following steps:</p> <ul style="list-style-type: none"> • 2017-18 – 2022-23: outturn values <p>2023-24 onwards: our rdWRMP24 FP NHH forecast uplifted by the increased NHH demand seen in the year 2022-23 compared to our original rdWRMP24 forecast for 2022-23</p>
Table 2a – 4NY	<p>Values for this line have been calculated using the following steps:</p> <ul style="list-style-type: none"> • 2017-18 – 2022-23: outturn values • 2023-24 – 2024-25: our most recent internal forecast of leakage for the rest of AMP7 • 2025-26 onwards: we have assumed that leakage reduction values calculated for the DYAA scenario would apply to this scenario, and so have calculated this line using year-to-year changes in leakage, starting from the 2024-25 value.
Table 2a – 5NY	<p>Values for this line have been calculated using the following steps:</p> <ul style="list-style-type: none"> • 2017-18 – 2022-23 – outturn values <p>2023-24 onwards – 1NY + 3NY + 4NY + DSOU + Water Taken unbilled</p>

Table 2f	<p>Our current levels of service are outlined in our Drought Plan. We have no confirmed plan to amend our Level of Service for TUBs/NEUBs, and our WRMP sets out the continued need for TUBs and NEUBs across the planning period.</p> <p>We have undertaken modelling of our final plan at different levels of demand in order to provide the information required to populate Table 2f. The level of demand adopted in the runs used to populate Table 2f is equal to Final Plan DI + DO reduction due to Environmental Destination + Outage Allowance + Target Headroom. This excludes climate change. The reason for this is that, for Thames Water, outage allowance, target headroom and climate change are all of similar magnitude and a more realistic view of restrictions implementation is likely to come from inclusion of two of these factors rather than all three.</p> <p>We have undertaken modelling for four key time slices, 2030 (close to the beginning of the plan period, 1 in 100-year resilience), 2033 (1 in 200-year resilience achieved), 2040 (1 in 500-year resilience achieved), and 2050 (when most Environmental Destination licence reductions are programmed). We have assumed that the 2030 result applies for the period 2022-2032, the 2033 result applies from 2033 to 2039, the 2040 result applies from 2040 to 2049, and the 2050 result applies from 2050 onwards.</p> <p>Modelling has been undertaken for the London WRZ only, as this zone is where most of our customers are located.</p>
Table 3	<p>The climate change component of Target Headroom is zero after 2040, due to the application of a WRSE-developed method in which uncertainties are removed from Target Headroom when 'branching' occurs in the adaptive plan, in order not to double count.</p> <p>In addition, on a few occasions before 2040, negative contributions of climate change towards Target Headroom can be seen. These are due to the application of numerical methods and Monte Carlo sampling, are small, and should be regarded as anomalies.</p>
TWSLND	<p>The Environment Agency requested that we amend our representation of licence reductions for our rdWRMP. As such, we have included only DO reductions in line 7.3BL and have included DO benefits from flow returns in line 7.6BL.</p>
Table 4	<p>We have classified options as Unconstrained, Feasible or Preferred as aligned with Thames Water rdWRMP24 section 7 – Appraisal of Resource Options and Appendix P – Options list.</p>
Table 4	<p>Column BC is 'Freeform column 8'. Some options classified as 'In-Zone Infrastructure', 'New Resource' or 'Transfer'. Some options have no classification provided. The benefits of this column will be reviewed for the next round of WRMP.</p>
Table 4	<p>It is noted that the Table 4 metrics are developed from a methodology which relies on the WRSE Investment Model metrics.</p>
Table 4, 5, 5a, 5b	<p>Displayed costs for all SESRO options are 55% of the total, to reflect TW's share of the scheme.</p>

Table 4, 5a, 5b, 8	Note that any information provided on water trading are indicative prices and at this stage are non-binding, for planning purposes only and liable to change.
Table 4, 5b	It is noted that there is a marginal difference in the carbon cost calculation methodology between Tables 4 and 5b. The methodology will be reviewed for the next round of WRMP24.
Table 5	Transfer options have been included for Affinity and Southern Water which are not included in Table 4 which only includes for TW options in alignment with TW dWRMP24 section 7 – Appraisal of Resource Options and Appendix P – Options list.
Table 5	No data is published beyond 2074-75 in Table 5. This may affect some options WAFU values presented in Table 4 versus Table 5. Table 4 WAFU has been calculated for an 80-year period.
Table 5a	Table 5a NPC 'EA' calculation starts from 2024-25. Some of the options spend starts earlier than this date which will result in a variance as compared with the NPC published in Table 4. The early spend is required so that options can be delivered for when they are required. Therefore the formula in Table 5a has been overwritten to ensure that the full cost of the options with these early start dates are reported within NPC calculations and they align with values in Table 4.
Table 5b	It has been noted that New Reservoir – SESRO fencing (capex) costs are the same for all size variants of the reservoir. This will be reviewed ahead of the next round of WRMP24.
Table 6 – 11.1FPD, 13.1 FPD, 16.1FPD	No uplifts have been applied to DI or TH in Table 6. Our DO calculations already account for amendments to bulk supplies during drought, so no amendments made to 13.1 FPD.
Table 6, 12FPD; all zones, 1 in 500-year return period	Our initial Level of Service (for EDOs) is '1 in 100-year', moving to '1 in 200-year' by 2033, and '1 in 500-year' by 2040. We have reflected our LoS in both our baseline WAFU and our final plan WAFU. As such, the formula used in line 12FPD would not show a '1 in 500-year' WAFU through the whole planning period. As such, we have amended the formula in 12FPD.
Table 6, 8FPD; all zones, all return periods	<p>In our submission of Table 6, in the 'Level 3 drought permits/orders' row, we have made an assessment, consistent with our assessment in the TW drought plan, of the DO benefit that drought permits would bring. For London, this is based on modelling carried out for WRMP19, with simulation modelling of DO impacts of London's drought permits having not been undertaken for WRMP24 to date.</p> <p>In Table 3, and our wider WRMP planning, we have, in discussion with the EA, agreed those drought permits which we should consider in our supply-demand balance planning in the medium term (up to 2040), and those which we should not consider in this respect due to their environmental impact.</p> <p>In Table 6 we have assumed that drought permits that our current drought plan refers to are available throughout the planning period.</p>

Table 7	<p>In table 7, we have marked each programme within the adaptive plan as having 11% likelihood, as we have 9 future supply-demand pathways that we consider to be equally likely. The total of all likelihood figures is 88%, because this table excludes the 'preferred programme', which also has an 11% likelihood</p> <p>In table 7, we have marked the 'least cost programme' likelihood and "extra plan" (LTDS scenarios) as N/A. This is because these alternative programmes are identified through a different lens than our WRMP best value plan. Since we intend to adopt our best value plan, we do not consider there to be a likelihood of adopting these alternative plans.</p>
Table 7	We have interpreted 'WRZs impacted' to mean all those WRZs in which a different supply-demand balance pathway is followed, rather than a pathway along which a different options selection is followed.
Tables 8b and 8c	<p>Costs presented in these tables include all expenditure required to improve the supply-demand balance. This includes both expenditure which is anticipated to feature in PR24 enhancement cases, and expenditure which falls under base expenditure. For example, costs presented for meter replacement include both the cost of meter replacement (base) and the smart meter premium (enhancement). Similarly, table 8b includes costs for DMA which will be included in our base expenditure - we do not anticipate making an enhancement case this.</p> <p>We have asked Ofwat for clarity on what should be presented in these tables¹ and whether these tables should include all costs required to enhance the supply-demand balance, or just those costs that would be classified as enhancement expenditure in PR24. We received guidance on this matter on 27/07/2023 which was too late to incorporate into this submission.</p> <p>We have made allowances for overheads (D&PG) in our WRMP costs at 11% on capex. The appropriate PR24 overhead allowance is being determined at the overall plan level, rather than being defined at option level. Because of this, the overhead allowance may be different between WRMP24 and PR24.</p>
Table 8	Rows labelled F27 and F28 in the WRMP tables are assumed to be the equivalents of the rows labelled F1 and F2 (respectively) in the guidance for these tables.
Table 8	Row F27 Leakage maintenance costs has been calculated using our current unit cost from AMP7 and will be reviewed for the revised draft to provide a strategic delivery plan that will take account of potential efficiencies in delivery.
TWSLND	We have not assessed a critical period supply-demand balance for London, due to the large amount of storage and interconnectivity afforded by the Ring Main in London WRZ.
Table 7, 8e and 8b (alternative programmes)	In this table, wherever a SESRO option is selected, regardless of size, it is assumed that 55% of the Deployable Output of the option would be allocated to Thames Water

Table 8b	Costs for the strategic resource options are not completely aligned with our PR24 proposed enhancement expenditure. This is because: <ol style="list-style-type: none"> 1. The Strategic Resource Option development team have developed a more robust profile of planning and development expenditure, including alternative arrangements for the purchase of land required for SESRO. The WRMP costs are based on an earlier iteration of planning and development spend profiles. 2. We have identified that development activities for the STT and Beckton Recycling schemes should continue in order that these options could be progressed as alternatives to SESRO and Teddington DRA respectively.
Table 8b and Table 8d, Table 4, Table 5a	Redactions: We have redacted opex and totex costs as required in AMP8 to ensure that the opex costs of an option with commercial confidentiality issues are not made public
Table 8e	Between dWRMP and rdWRMP, we have amended the information presented in this table. In the dWRMP we populated this table with cumulative supply-demand balance benefit delivered up to the year in question. This has now been replaced with in-period benefits (e.g., the 2034-35 value stated is the benefit delivered between 2030-31 and 2034-45)
Table 4, Table 5a, Table 8b, Table 8d	Redactions – we have redacted cost information for the period 2025-2030 for commercial confidentiality reasons related to a contract which is in place. This required us to redact operating and total costs, in order that the figures we have redacted could not be back-calculated. The redacted costs are relatively small in the context of our WRMP and so their redaction is not deemed material to the overall message delivered by the tables.

WRMP24 Reference	Component	2017-18	2018-19
1NY	Total Household Consumption	1445.08	1457.75
2NY	Average Household - PCC	145.8	147.1
3NY	Total Non-Household Consumption	485.21	472.22
4NY	Total Leakage	699.41	694.03
5NY	Distribution input	2691.92	2713.00

¹ Email sent on 28/04/2022 to Ofwat Principal, WR Planning referencing what “base” and “enhancement” expenditure definitions Ofwat would expect to see in Table 8b for leakage), and at several pre-consultation meetings.

