Our Drainage and Wastewater Management Plan 2030-2055

Delivering for customers, communities and the environment

Performance Indicator Methodology - Good Ecological and/or Chemical Status: Public Sewerage

March 2026

Thames Water

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This methodology document is a working draft based on the requirements of the published DWMP guidance and informed by agreements made through the Water Industry Task and Finish Groups for each Performance Indicator (PI). As the DWMP stages for each PI progress, this methodology will be refined to reflect the practicalities of deployment and feedback from stakeholders. A final published methodology document will describe the detailed approach followed.

1. Introduction

1.1. This document provides a detailed description of the **Good Ecological and/or Chemical Status (Public Sewerage) Performance Indicator** and its purpose and contribution to forming our Drainage and Wastewater Management Plan (DWMP). This Performance Indicator measures the impact that our operations have on the ecological status of waterbodies, according to the Water Framework Directive (WFD), which receive discharges from our sewerage system.

Purpose of this document

1.2. The purpose of this document is to outline the methodology that will be used to establish the base year and future baseline forecasts for the **Good Ecological and/or Chemical Status (Public Sewerage) Performance Indicator**, as part of our DWMP for the 2030-2055 planning period. The base year is 2030 and it is our best estimate of expected performance for this indicator at the end of the current investment period (2025-2030). It reflects the outcome of schemes and maintenance activities planned for this period. We then forecast what is expected to happen to the indicator at points in the future if no change in investment is made. These future points are set in the short term (2035), the medium term (2045) and the long term (2055).

1.3. In addition, it sets out threshold values (where applicable) that will be used to summarise the level of risk and further guide the development of options for the 2030-2055 planning period.

1.4. The requirements for Performance Indicators are set out in Government guidance for DWMPs[1] and subsequent clarifications by the Environment Agency (EA)[2]. To understand the general approach to our DWMP, please also refer to our Strategic Context document on our website.

1.5. Assessment of the base year and future risks for each of our Performance Indicators is a crucial step in the development of our DWMP. It informs our understanding of how the drainage and wastewater system is able to meet legal obligations and meet the needs of customers and the environment. The DWMP approach requires completion of a risk assessment for the following Performance Indicators for each future planning horizon at the wastewater catchment scale:

- Internal flooding
- External (curtilage) flooding
- Storm overflow performance (England)[$]
- Treatment works compliance (numeric)[$]

[1] Guidelines for Statutory Drainage and Wastewater Management Plans (DWMPs) - GOV.UK
[2] EA letters to water companies with feedback on performance indicators (02/10/2025), (23/03/2026) and reporting thresholds (17/10/2025).

- Treatment works compliance (descriptive at numeric sites)[$]
- Treatment works compliance (Dry Weather Flow (DWF))
- Treatment works compliance (Flow to Full Treatment (FFT))
- **Good Ecological and/or Chemical status: Public sewerage**
- Pollution incidents: serious[$]
- Pollution incidents: total
- Bathing water quality
- Shellfish water quality
- Surface water flooding (Shared responsibility)[β]
- Good Ecological and/or Chemical Status: Urban and transport (Shared responsibility)[β]
- Emergency overflow performance[$β]
- Treatment Works Compliance (descriptive)[β]
- Groundwater pollution[β]
- Groundwater infiltration[β]

1.6. Performance Indicators marked $ will use a nationally consistent suite of thresholds to describe the general level of risk[3,4]. Performance Indicators marked β are considered more experimental in nature and are recognised as inherently difficult to forecast and will hence be trialled in DWMP28 as emerging Performance Indicators and then possibly refined for subsequent DWMPs[1].

Background

1.7. Our region has some of the most beautiful and environmentally important watercourses throughout the UK. Much of our drinking water is abstracted from chalk bedrock which also provides baseflow to watercourses, especially chalk streams. Improving and maintaining the ecological and chemical status of these surface and groundwater bodies is important to us, our customers and our stakeholders. Our long-term aim is for our wastewater systems to support surface and groundwater bodies in our region achieving 'Good' status in line with Government targets. We acknowledge that this could potentially mean not all waterbodies in our region achieving 'Good' status.

1.8. The investments planned in the current Asset Management Period 8 (AMP8) are ambitious in significantly reducing: the phosphorus discharges to surface waters to support the achievement of Water Framework Directive targets, undertaking a large chemical investigation and removal programme, and addressing ammonia and dissolved oxygen issues at specific waterbodies. We have also programmed investigations and investment to mitigate the impact of our assets on groundwater quality.

[3] https://www.gov.uk/government/publications/guidelines-for-statutory-drainage-and-wastewater-management-plans-dwmps
[4] EA letters to water companies with interim feedback on performance indicators (02/10/2025) and reporting thresholds (17/10/2025)

1.9. The status of our watercourses and groundwaters can be impacted by discharges and runoff/infiltration from various sources including wastewater treatment works, storm overflows, leaking sewers, misconnected sewers, industry, and urban and agricultural runoff.

Regulation and legislation

1.10. The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017[5] defines the assessment, classification and water quality targets for every designated surface or groundwater body in England and Wales. The water quality risk assessment associated with all Water Framework Directive drivers are detailed within this document.

1.11. We recognise that the Department for Environment, Food & Rural Affairs (Defra) outlines, in their 'A new vision for water' White Paper,[6] the Government's ambition to set new ambitious targets for water environment, also inclusive of potential updates to the Water Framework Directive Regulations. We will continue working on our DWMP28 based on the existing framework, intending to incorporate new legislative or regulatory requirements when available.

1.12. There are also specific assessments, classifications and water quality targets for watercourses which are designated for their national and/or European importance for their protected environmental features, ecology or habitats. These are covered by various national policies and European Union (EU) Directives which have been transposed into UK legislation and regulations, including for example the Conservation of Habitats and Species Regulations 2017[7]. The water quality risk assessment associated with these drivers is contained within the treatment works compliance (numeric) Performance Indicator.

1.13. This Performance Indicator only refers to and includes Water Framework Directive targets to achieve 'Good' ecological and/or chemical status or managing the risk of waterbodies deteriorating from 'Good' status. Other legislation and regulations, such as the Urban Waste Water Treatment (England and Wales) Regulations 1994[8] and the Environment Act 2021[9], don't seek to assess or classify waterbodies but do have a direct impact on water quality, by setting out requirements like minimum standards of wastewater treatment, national phosphorus reduction targets and maximum frequency of storm overflow discharges. It is often these laws and regulations, which go beyond the requirements of the Water Environment (Water Framework Directive), that drive Water and Sewerage Company (WaSC) investment and set stringent permit and discharge conditions.

[5] The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017
[6] A new vision for water: white paper - GOV.UK
[7] The Conservation of Habitats and Species Regulations 2017
[8] The Urban Waste Water Treatment (England and Wales) Regulations 1994
[9] Environment Act 2021

Key definitions

1.14. The Water Environment (Water Framework Directive) Regulations cover the majority, but not all, surface, transitional, coastal and ground waters across England and Wales with the aim of protecting the environment. The regulations classify each surface waterbody according to its 'ecological' and 'chemical' status, and every groundwater to its 'overall status'. In the case of surface water bodies, this includes transitional and coastal water bodies[10], as well as heavily modified[11] and artificial water bodies[12].

1.15. The ecological status of a surface waterbody is determined by the status of specific biological, physio-chemical and hydro-morphological supporting elements. There are five classes of ecological status (high, good, moderate, poor or bad). The chemical status of a waterbody is determined by the status of specific parameters grouped under the headings 'priority hazard substances', 'priority substances' and 'other pollutants' which are recorded as 'good' or 'fail'. The ecological and chemical status together define the overall status of a surface water body.

1.16. The overall status of a groundwater body is defined by its chemical and quantitative status. The chemical status is an expression of the overall quality of the groundwater body based on five tests and takes into consideration defined threshold values and trends. These five tests include 'chemical dependent surface water body status', 'chemical drinking water protected area', 'chemical groundwater dependent terrestrial ecosystems test', 'chemical saline intrusion' and 'general chemical test'. The quantitative status of a groundwater body is related to the overall impact groundwater abstraction has on the groundwater body and dependent ecosystems. For groundwater bodies, the worst-case classification from the five chemical tests is used to determine the overall chemical status of the groundwater body, and the worst-case classification from the four quantitative tests is used in the overall quantitative status.

1.17. The status of a waterbody is updated with each cycle of the River Basin Management Plans (RBMP) based on statistical analysis of the data covering the last cycle period. We are currently in the third cycle of RBMP, 2021-2027, with the next planning cycle starting in 2028.

1.18. If a waterbody is not currently achieving the target 'Good' ecological and/or chemical status, or at risk of deteriorating from 'Good' status, the EA is required to investigate the Reason(s)

[10] Bodies of surface water in the vicinity of river mouths that are partly saline in character as a result of their proximity to coastal waters but are substantially influenced by freshwater flows
[11] The hydromorphological designation of a water body, i.e. whether it is considered to be artificial or heavily modified by human activity.
[12] A man-made water body, rather than a modified natural water body, which supports important aquatic ecosystems. It includes canals, some docks and some man-made reservoirs.

for Not Achieving Good status (RNAG) and Reasons for Deterioration (RFD)[13]. In the case of heavily modified and artificial water bodies, these water bodies must aim to achieve 'good ecological potential'[14]. The RNAG / RFD databases include the identification of the source, activity and sector involved in causing an element to be at a 'less than good' status or, 'has potential' or be at 'risk of a deterioration' in status. This then leads to setting out a plan for addressing these.

1.19. Where the RNAG is attributed to a Water and Sewerage Company (WaSC), the required improvement action (or further study) is set out in the Water Industry National Environmental Programme (WINEP) during the price review process. For certain parameters, additional evidence or confidences may also be required before actions are planned. Where multiple sectors are contributing to a failure, each sector is required to address their 'fair share' of the issue. Where it is not possible to fix the issue, due to disproportionate costs or technological limitations, other lower objectives may be set.

[13] The EA's 'RNAG' and 'RFD' databases are updated for every waterbody as part of the River Basin Management Plan cycle. This Performance Indicator will be baselined off the RBMP Cycle 3 RNAG Database

[14] The Directive and Regulations definition of 'Good ecological potential' is driven by recognising that fundamental changes to ecological determinands, mainly related to physical alternations to a water body, may make good ecological status (with reference to the natural conditions of the waterbody) very difficult from a technical or economical perspective to achieve.

2. Key assumptions

2.1. This section contains a description of the key assumptions we will make in reporting the Performance Indicator and provides a commentary on alignment with the DWMP guidelines. The list of assumptions in this section includes the most significant non-technical assumptions, with additional technical assumptions made in our detailed methodology.

Assumptions

2.2. The number and location of designated waterbodies within our region is defined by the EA[15]. This includes water bodies located outside of the Thames River Basin District, but which could be influenced by the performance of our wastewater assets.

2.3. The term 'sewerage asset discharges' includes the following RNAG/RFD activities or incidents: leaking utility sewers; sewerage discharge (continuous) and sewerage discharge (intermittent). These are all linked to the Water Industry 'Category' and Wastewater treatment 'Business Sector', and the related National Significant Water Management Issue (SWMI) in the published RNAG/RFD tables. Asset types include sewerage networks, as well as storm overflows and emergency overflows (both intermittent), and sewage treatment works (continuous). The definition does not include small private sewerage treatment systems such as cess pits and septic tanks.

2.4. This Performance Indicator only concerns RNAGs/RFDs attributed to the 'Water Industry' category and 'Wastewater treatment' sector[16]/'Pollution from wastewater' National SWMI header.

2.5. Assessment of the current level for this Performance Indicator will be based on RNAGs/RFDs attributions from 2024 Price Review (PR24) baseline of 2019-2022[17]. As RNAGs/RFDs attributed to Thames Water must be appropriately validated and evidenced, we will only include RNAGs/RFDs with category confidence ratings of 'Probable' or 'Confirmed' (the latter henceforth referred to as 'validated' RNAGs/RFDs). We will not include RNAGs/RFDs with lower confidences (i.e. 'Suspected').

2.6. RNAGs/RFDs attributed to the 'Water Industry' category and 'Water Supply' sector are covered within associated Water Resource Management Plans (WRMP) and not addressed in the DWMP.

2.7. RNAGs/RFDs associated with the 'Water Industry' category and 'Wastewater treatment' sector are typically either, directly linked to classification elements for nutrient or sanitary

[15] Thames River Basin District | Catchment Data Explorer
[16] Allowances will be made for activities which has quite obviously been mis-categorised or attributed to the wrong sectors during production of the RNAG database as per standard methodologies agreed as part of price review.
[17] England | Catchment Data Explorer

determinands, or indirectly linked to nutrients or sanitary determinands through a 'Pressure' on an associated biological classification element (e.g., 'Fish', 'Invertebrates', 'Macrophytes and Phytobenthos' or 'Phytoplankton'). RNAGs/RFDs for the Water Industry and Wastewater Treatment sector may, on occasion, be linked to other classification elements, e.g., temperature, pH, Tributylin Tin compounds, however this is rare. These are primarily connected with Good Ecological Status.

2.8. For the 2019 assessment of chemical status, the EA changed their methodologies and increased their evidence base. Due to these changes, all water bodies now fail chemical status, and this assessment is not comparable to previous years assessments.

2.9. Methodologies for determining the status of waterbodies are set out by the EA. By following the approved EA methodologies, we will generate results which are appropriate to this Performance Indicator. Based on the current forecasted timescales, we are mindful of the risk of not being able to fully include in our DWMP28 the investment required by the EA PR29 driver guidance documentation and we will refer to PR24 driver guidance in the interim.

Alignment with regulator guidance and industry approach

2.10. This methodology aligns with all the requirements as set out by the Cycle 2 Company Network (C2CN)[18] industry guidance for this Performance Indicator and subsequent regulator feedback[19].

2.11. It should be noted that the C2CN industry guidance is focussed and limited to the baselining and forecasting of phosphorus to inland surface waterbodies. We are going beyond the C2CN definition in our region, in line with interim feedback on Performance Indicators from the EA received in October 2025.

2.12. Similarly, neither industry guidance nor interim EA feedback currently includes assessment of the Water Framework Directive chemical determinands.

2.13. We are proposing to extend the remit of this Performance Indicator to include all nutrients, sanitary parameters and other chemical determinands covered by the Water Framework Directive and usually included in the driver guidance associated with it. We are also proposing to extend the remit of this Performance Indicator to include all waterbody types covered by the directives including groundwaters, transitional and coastal waterbodies.

[18] Cycle 2 Company Network – a national forum where water companies completing DWMP collaborate on common methodologies in consultation with Government and Regulators. C2CN has authored preliminary interpretations of the requirements for Performance Indicators.
[19] EA letters to water companies with interim feedback on performance indicators (02/10/2025) and reporting thresholds (17/10/2025)

3. Data sources

3.1. This section includes a brief description of the key datasets required to generate and report on this Performance Indicator. We also outline the process of assuring the accuracy these sources used to calculate the Performance Indicator.

3.2. The official waterbody classifications are published by Defra following completion of the latest RBMP cycle. The recent Cycle 3 RBMP results will be used to establish the current water quality status of waterbodies.

3.3. The data used to inform the RBMP Cycle 3 waterbody classifications is available on the EA Water Information Management System (WIMS) database[20]. This is an assured third-party dataset with no normalisation or assurance required.

3.4. Hydrometric catchment data sets (EA record of hydrometric data, rainfall, river level and flow and groundwater level) are available from the Defra hydrology data explorer[21]. This is an assured third-party dataset with no normalisation or assurance required.

3.5. Groundwater levels, where applicable, are held by the British Geological Survey within the National Groundwater Level Archive[22].

3.6. The EA has calibrated water quality models for phosphorus (SAGIS[23] SIMCAT[24] Optimisers) which are used as part of the price review process to set wastewater treatment work permit limits.

3.7. The impact of climate change on low flow river conditions is available online[25].

3.8. All asset performance data, asset permits and growth predictions are available from within Thames Water.

The data sources we are expecting to make use of are presented in Table 1.

[20] Map Explorer | Water Quality Explorer
[21] Hydrology Data Explorer - Explore
[22] National Groundwater Level Archive | British Geological Survey (BGS)
[23] Source Apportionment Geographic Information System (SAGIS)
[24] Simulation of Catchments modelling tool (SIMCAT)
[25] Hydroprojections

Table 1. Data sources and assurance

Dataset	Source	Assurance
River Basin Management Plan Cycle 3 Reasons for Not Achieving Good status database	England | Catchment Data Explorer	Assured third party data
River Basin Management Plan Cycle 3 Reasons for Deterioration database	England | Catchment Data Explorer	Assured third party data
EA SAGIS SIMCAT Optimisers (Measured / At Permit)	Direct from the EA	Assured third party data
WIMS database (EA record water quality sampling data)	Open WIMS data	Assured third party data
Defra hydrology data explorer (EA record of key hydrometric data, rainfall, river level and flow and groundwater level)	Hydrology Data Explorer - Explore	Assured third party data
Climate Change impact on River Flow	Hydroprojections	Assured third party data
Asset data, permit conditions & growth data[26]	Internal Thames Water datasets	Assured internal data

[26] The historical data sourced by the Annual Performance Report is aligned with the Good Ecological and/or Chemical Status Performance Indicator and the various STW Compliance Performance Indicators.

4. Reporting thresholds and outputs

4.1. This section presents our initial view of reporting requirements, which we intend to further develop over time as more information becomes available, by the regulator or other stakeholders. In particular, we recognise that the upcoming Strategic Policy Statement (SPS) and any directions issued ahead of the next Price Review 2029 (PR29) could have significant impacts on the methodology for this Performance Indicator.

Reporting thresholds and planning horizons

4.2. Our performance in regard to maintaining and improving ecological and/or chemical status of our surface waterbodies, and the overall status of our groundwater bodies, will be reported against the metrics outlined by industry working groups, and listed below:

- The absolute number of validated RNAGs / RFDs across our region attributed to the 'Water Industry' sector and under 'Wastewater Treatment' / 'Pollution from wastewater' impact categories.
- The number of RNAGs / RFDs will be reported at treatment work catchment scale (level 3), river basin (level 2) and for the whole of Thames Water (level 1).
- The number of RNAGs / RFDs will be baselined against three different planning horizons (relative to a base year assessment from 2030), short (2035), medium (2045) and long term (2055).

4.3. At this early stage of DWMP28, there are currently no commonly agreed thresholds for assessing the performance of this indicator and we consider the performance against the requirements of this Performance Indicator as a binary assessment. However, upon completion of the risk assessment and further stakeholder engagement, we will review whether low, medium or high-risk thresholds can be applied.

4.4. Where there is uncertainty in the forecastable future components contributing to RNAGs, then a scenario planning approach will be adopted here and throughout the DWMP. The proposed definitions of the low, medium and high-risk planning scenarios are shown in Table 2. They involve an assessment of different climate change scenarios (river flow and temperature conditions associated with Representative Concentration Pathway (RCP) 4.5 / 8.5), population growth estimates and per capita [water] consumption (PCC) estimates. For 2030, 2035 and 2045 a central estimate is adopted as being the most likely future condition. For 2055 a more conservative estimate is made so that the 'worse case' future outcome can be understood.

Table 2. Illustrative definitions for planning scenarios according to risk and design horizons

Risk	Short-term 2035	Medium-term 2045	Long-term 2055
Low	RCP 4.5 Low Growth & PCC Estimates	RCP 4.5 Medium Growth & PCC Estimates	RCP 8.5 High Growth & PCC Estimates
Medium	RCP 4.5 Low Growth & PCC Estimates	RCP 4.5 Medium Growth & PCC Estimates	RCP 8.5 High Growth & PCC Estimates
High	RCP 4.5 Low Growth & PCC Estimates	RCP 4.5 Medium Growth & PCC Estimates	RCP 8.5 High Growth & PCC Estimates

Assessing the value of performance

4.5. Alongside publication of this Performance Indicator methodology, there is a requirement to value performance outcomes using our Value Framework. This step will be completed during the Options Development and Appraisal (ODA) stage, once the framework has been fully defined and agreed following consultation with stakeholders.

4.6. It should be noted however, that this Performance Indicator is not expected to be linked to the provision of new assets, but rather to the investment or upgrade of existing assets.

5. Performance Indicator methodology

5.1. The specific methodologies to be applied, to forecast the base year and future baseline RNAGs/RFDs, will vary according to the water quality parameter (i.e. ammonia, dissolved oxygen, phosphorus, etc), the waterbody type (inland surface water, transitional or coastal, groundwater, etc), the protected status of the discharge location (i.e., Site of Special Scientific Interest or EU Protected Area, etc) and the discharge type (i.e., continuous or intermittent).

5.2. The approach and the methodologies for the assessment of inland surface waters that we are proposing to use are adopted from EA PR24 Driver Guidance documentation and use EA approved tools and software. This approach is expected to deliver all the technical requirements of the regulator and provide sufficient information to inform future business plans. For clarity, the requirements are limited to WFD requirements to achieve and/or maintain Good Ecological Status. Additionally, we will test eligibility of investment according to the statutory, statutory+ (i.e., when an action becomes statutory if deemed cost-beneficial) or non-statutory legal obligation of each driver, as per the EA PR24 Driver Guidance.

5.3. For transitional, coastal and groundwaters we propose to use methodologies taken from EA PR24 Driver Guidance documentation. In this instance, there are no pre-approved EA models which can be used or easily developed, so we propose to utilise the models which are under current development as part of the AMP8 WINEP (for the purposes of DWMP forecasting and investment planning). If these AMP8 WINEP models are not ready and approved in time for the first draft of DWMP28 they will be included as part of the annual updates.

5.4. These are universal methodologies applied to each waterbody (i.e. there will be no difference in the level of detail provided across catchments). This is detailed below:

5.4.1. The risk assessment for nutrients, sanitary determinands and temperature will be undertaken for ammonia, dissolved oxygen and phosphorus on every surface waterbody.

5.4.2. Whilst we are intending to include pH in our assessment, there is not an established methodology to do so, and we are liaising with the EA to consider the need for developing one.

5.4.3. The risk assessment for all parameters into transitional or coastal waters is currently constrained by the lack of a high-level planning model of the Thames Estuary. However, this model is being developed as part of an AMP8 WINEP investigation and we will include any outputs from such investigation if relevant and when available.

5.4.4. The risk assessment for all parameters into groundwaters will only take place where there are concerns with existing groundwater quality, as the relationship between our discharges and groundwater quality is currently very unclear. Groundwater impact models are being developed as part of AMP8 WINEP investigations and we will include any outputs from these investigations if relevant and when available.

5.4.5. The risk assessment for [non-ferric] metals and chemicals will only be undertaken where there is an existing metal or chemical permit, or where our specialists are aware that a permit may be required in the near future following on from the findings of the Chemical Investigations Programme (CIP). As the national CIP has so far been limited to particular sewage treatment works and specific waterbodies, we do not have the data to be able to baseline and forecast beyond these locations. Similarly, the assessment of the impact of sewage treatment works on the chemical status has been undertaken by the EA during the development of PR24 and is not available to the WASCs. In lack of these methodologies, forecasting the impact of growth and climate change on chemical permits can only be carried out on the basis of planning for 'no deterioration load standstill'.

5.5. The high-level approaches for assessing continuous and intermittent discharges are shown illustratively in Figure 1 and Figure 2.

Figure 1. High level approach to the Performance Indicator methodology for continuous discharges

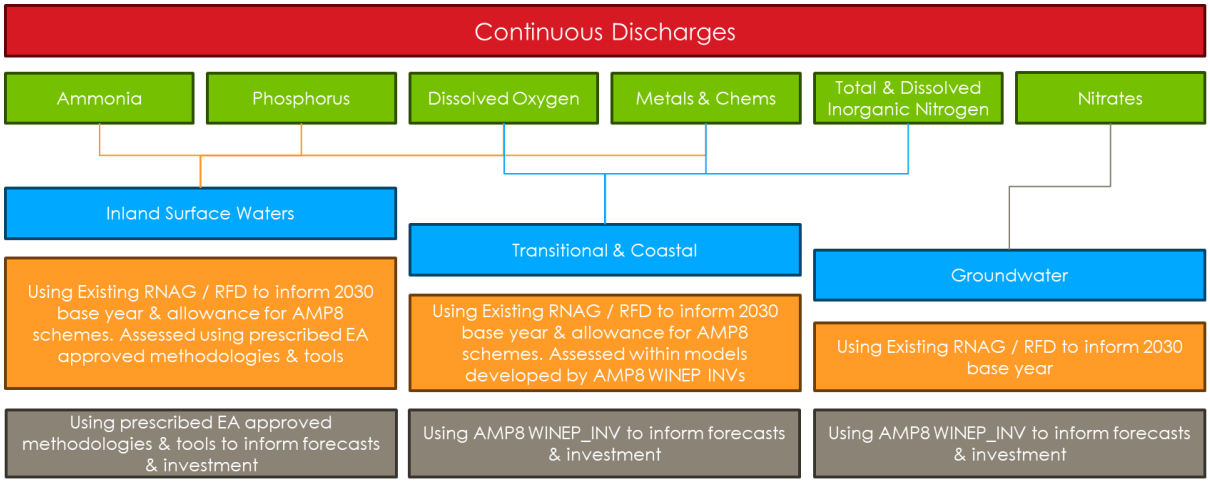
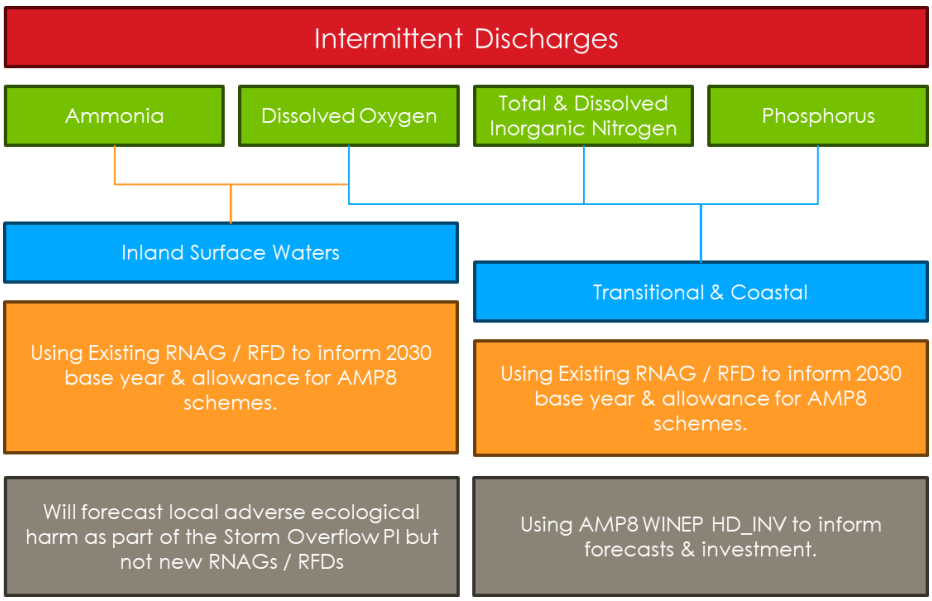


Figure 2. High level approach to the Performance Indicator methodology for intermittent discharges.



5.6. The outputs of this Performance Indicator, which take the form of sewage treatment works final effluent quality permit conditions, will be used as the inputs to the sewage treatment works compliance Performance Indicator.

5.7. Our proposed methodologies go significantly above and beyond the requirements set out by the national industry working groups. We believe this is important as the DWMP should capture all water quality related investment needs and not only a small proportion.

5.8. We are taking a catchment approach to water quality modelling, and we intend to follow the principles of the EA's water quality modelling approach. Additionally, we are liaising with the EA in order to agree the method to model the impact of our discharges on water quality described in this document.

Base Year Performance – 2030

5.9. The base year assessment will use the Cycle 3 RBMP classifications, including those assessed as being 'at risk'. This will need to be modified to account for the impact of planned AMP8 investment that will address current RNAGs/RFDs.

5.10. In the case of continuous discharges to surface waters, the following activities will be implemented:

5.10.1. For phosphorus, we are planning to use the EA SAGIS SIMCAT Optimiser[27] and the River Quality Planning (RQP)[28] tool to confirm the impact of planned AMP8 investment. This is in line with PR24 driver guidance. We acknowledge that some of the AMP8 investment or future level of performance is driven by Environment Act requirements.

5.10.2. For ammonia, metals and chemicals, we are planning to use the RQP to confirm the impact of planned AMP8 investment. This is in line with PR24 driver guidance.

5.10.3. For dissolved oxygen, we are planning to use RQP and Streeter-Phelps[29] to confirm the impact of planned AMP8 investment. This is in line with PR24 driver guidance.

5.11. In the case of intermittent discharges to surface waters, we are working on the assumption that any AMP8 scheme which is designed to prevent 'local adverse ecological impact', to meet Environment Act requirements (generally expected to be a more stringent requirement than 'Good' status), will by default address any intermittent RNAGs/RFDs within those waterbodies.

5.12. In the case of continuous and intermittent discharges to transitional, coastal or groundwater bodies, AMP8 WINEP investigations will be used to baseline and forecast the investment needs.

5.13. We are currently in the Cycle 3 RBMP period, from 2021-2027. The next 6-year cycle starts in 2028, associated with the publication of the Cycle 4 RBMPs and related updated water body status assessments/trends. Therefore, we would expect to update/validate our 2030 baseline projections and assessments from the assumed current 2023 WB status against future updates associated with the Cycle 4 RBMP period in DWMP cycle (after 2030).

Future performance – 2035-2055

5.14. Assessing future performance, with regards to the number of new RNAGs/RFDs and the associated forecasting of investment needs, will be undertaken for various planning horizons and risk bands as previously discussed. The methodologies for forecasting are introduced in high level approaches outlined for the Base Year Performance – 2030, and in the Figures 1 & 2.

[27] Nationally standardised EA catchment modelling tool used to identify the sewage treatment works and catchment controls necessary to deliver target quality in receiving waters. It is used to set discharge permits at STWs. It can only be used for inland surface waters and is currently only calibrated for phosphorus.
[28] Nationally standardised EA single site mass balance tool – River Quality Planning – used to determine the impact downstream of any STW based on its current performance / permit or set discharge permit levels at STWs to deliver specific quality targets in receiving waters.
[29] Nationally standardised calculation method used to predict the dissolved oxygen sag (minimum) in rivers resulting from the degradation of biological oxygen demand (BOD). It is used to set discharge permits at STWs.

5.15. The planning horizon and risk band forecasting will be developed by changing baseline modelling parameters such as:

5.15.1. The impact of flows coming from the assets will be assessed by examining the growth forecasts through the different planning horizons. For example, there could be an increase in the amount of flow (and quality) coming from an asset over time as the growth in the sewerage catchment increases, or water usage decreases. This assessment will be closely aligned to the Dry Weather Flow (DWF) permit compliance Performance Indicator through which all predictions of future flows and loads are established.

5.15.2. The impact of climate change will be assessed by varying the predicted flows in the river system across the planning horizons and, where appropriate, river temperatures. For example, various climate change prediction models are available which show that the mean and low flow values of the rivers will change over time.

5.15.3. The impact of technological advancements will be assessed by varying the 'Technically Achievable Limit (TAL)'. The TAL is the lowest agreed permit conditions for any given determinand which is defined and set by the current technological and process limitations.

5.15.4. The impact of changing designations, e.g., new nutrient advise zones, can be assessed by varying the target concentrations within the waterbodies.

5.16. It is possible to vary these parameters within the three modelling packages listed here (RQP, SAGIS SIMCAT & Streeter-Phelps).

Assessment

5.17. The approach described here will be used to forecast the number of RNAGs/RFDs through the planning periods. This will highlight the degree to which historical and current investments go towards eliminating RNAGs by 2035 and guide where the DWMP needs to plan for further improvements to keep pace with population and climate trends through to 2055.

5.18. It should be noted for the purposes of this assessment of future performance, we will be assuming that if we address our 'fair share' of the contribution towards achieving 'Good' status for any given parameter, we are justified in removing the RNAG/RFDs.

6. Next steps

We are commencing the risk assessment stage based on the guidance received at the end of 2025. This is a working draft which we will revise considering delivery experiences, stakeholder feedback and additional regulatory guidance.

We welcome your views on this technical methodology. Please share them with us by emailing DWMP@thameswater.co.uk.

Our Drainage and Wastewater Management Plan 2030–2055 will include a number of technical methodologies, like this one. They will all provide detailed information on specific topics featured in our draft Plan such as climate change and sustainable approaches to drainage. You will be able to access all of the technical methodologies on our DWMP webpage.

For more DWMP28 information please visit our DWMP webpage and portals on our website.

Thames Water