

DWMP 28



Our Drainage and Wastewater Management Plan 2030-2055

Delivering for customers, communities and the environment

Performance Indicator Methodology - Surface Water Flooding (Shared Responsibility)

March 2026





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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 an explanation of the **Surface Water Flooding (Shared Responsibility)** Performance Indicator and its purpose and contribution to forming our Drainage and Wastewater Management Plan (DWMP). This metric is new for DWMP28 and is being trialled to investigate ways of improving collaboration on surface water flooding between Risk Management Authorities (RMAs)¹.

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 **Surface Water Flooding (Shared Responsibility)** 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). We then forecast what is expected to happen to the indicator at baseline 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 that will be used to summarise the level of risk and 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 DWMPs² and subsequent clarifications by the Environment Agency (EA)³. To understand the general approach to our DWMP please also refer to our Strategic Context document on our website⁴.

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 Organizations with statutory responsibilities under the Flood and Water Management Act 2010 to manage flood and coastal erosion risks in England and Wales

² [Guidelines for Statutory Drainage and Wastewater Management Plans \(DWMPs\) - GOV.UK](#)

³ EA letters to water companies with feedback on performance indicators (02/10/2025), (23/03/2026) and reporting thresholds (17/10/2025).

⁴ [DWMP28 | Drainage and wastewater | Thames Water](#)



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- 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^{2,3}. 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 DWMPs².

Key definitions

1.7. **Surface Water Flooding – (Shared Responsibility) Performance Indicator.** The Government DWMP guidelines provide the following definition:

Table 1: Extract from Table 2 of Defra guidance

Category	Metric	Details
Flooding	Surface Water Flooding (Shared Responsibility)	Annual number of properties per 10,000 properties indicated as at medium (3.3%AEP – 1%AEP) and/or high (greater than 3.3%AEP) areas of risk of surface water flooding estimated from reported incidents, local models from other RMAs and/or most recent Environment Agency surface water flood risk maps. This only covers surface water flooding within companies' drainage and wastewater catchments

1.8. The purpose of the Performance Indicator is to assess the base performance (e.g. 2030 for DWMP28) of the risk of surface water flooding (pluvial / fluvial) in our region and provide an indication of future performance under a 'do nothing' scenario.

1.9. This Performance Indicator will assist in identifying areas where shared responsibility for [surface water] flooding exists and so the potential opportunity to collaborate.

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- 1.10. This Performance Indicator reports the number of residential and commercial properties, irrespective of whether they are connected to the public sewerage system, that are situated within areas indicated to be at risk of pluvial or fluvial flooding⁵.
- 1.11. The Independent Water Commission⁶ identified gaps on a system-wide approach to water planning, with responsibilities fragmented across multiple regulators and overlapping processes. Therefore, it recommended the creation of regional water system planning authorities to deliver integrated, holistic, cross-sector water planning. More recently, the Department for Environment, Food & Rural Affairs broadly adopted the Commission's conclusions in their 'A new vision for water'⁷ White Paper. They propose to consolidate existing planning processes into two integrated frameworks (water supply and water environment) supported by a strengthened regional water planning function to improve coordination across sectors and align national, regional and local priorities. The White Paper outlines how this approach will be trialled and shaped and, in our opinion, such regional water planning function could be an enabler to deliver on the ambition of this Surface Water Flooding (Shared responsibility) Performance Indicator.

2. Key assumptions

- 2.1. This section contains a description of the assumptions we will make in reporting the Performance Indicator and provides a commentary on alignment with the DWMP guidelines.

Assumptions

- Surface water flood risk data will be the most recent available from the Environment Agency surface water flood risk maps depicting pluvial flood risk.
- River flood risk data will be the most recent available from the Environment Agency River and sea flood risk maps depicting fluvial flood risk.
- Address (property) data will be the latest available to Thames Water, which may not align with the EA reported numbers.
- That through engagement with RMAs, in working group(s), we will establish opportunity areas within our region for shared responsibility (collaboration opportunities) to flood risk.
- That, depending on the nature/dominant factor leading to flood risk, the most appropriate RMA will be identified to lead in delivering options/schemes.
- Excludes catchment areas where sewerage services are provided by New Appointments and Variations (NAVS)⁸, private companies that replace Thames Water or Thames water does not currently have a surface water drainage/sewer network – typically where riparian drainage exists.

⁵ [Risk of flooding from surface water – understanding and using the map - GOV.UK](#)

⁶ [Independent Water Commission - GOV.UK](#)

⁷ [A new vision for water: white paper - GOV.UK](#)

⁸ <https://www.ofwat.gov.uk/regulated-companies/markets/nav-market/>



Surface Water Flooding (Shared Responsibility) Methodology

- Residential and commercial properties are included.
- Counting of properties will align to the current Ofwat Performance Commitment reporting criteria (for external flooding) or will use the National receptor database (open-source dataset) approach if available⁹.
- Use of best available data for depth thresholds- recommendation is to use 200mm.

No allowance will be made for asset health, maintenance, or condition.

Alignment with Government DWMP guidelines

2.2. Our assessment methods, risk thresholds and our approach to reporting performance aligns with Government DWMP guidance. This metric is emerging and therefore more experimental in its approach. We have worked with industry practitioners on a viable approach that is based on piloting to build the evidence base for future DWMPs.

⁹ [External sewer flooding - PC definition - Ofwat](#)



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 of these sources used to populate the Performance Indicator.

Table 2. Data sources and assurance

Dataset	Source	Assurance
Surface Water Flood Risk	Surface Water (Last updated in 2025) Risk of flooding from surface water – understanding and using the map - GOV.UK GLA London Surface Water Strategy London Surface Water Strategy - London Datastore	Environment Agency published datasets therefore no additional assurance required
Rivers and Seas Flood Risk	River Flood risk Risk of Flooding from Rivers and Sea	Environment Agency published datasets therefore no additional assurance required
Address Point Data	Ordnance Survey AddressBase Premium AddressBase Premium Data Products OS	OS published datasets therefore no additional assurance required
Thames Water Sewer GIS Records	Thames Water Technical Information: Corporate GIS layer - public sewers	Annual Return Table 7C
NAV / Inset data	Thames Water Technical Information: Corporate Geographic Information System (GIS) layer for New Appointments and Variations	Thames Water SDAC (Sewer Drainage Area Catchment) data records the provider of drainage services.
River Boundary data	River Basin Management Plans C3 Management Catchments: https://environment.data.gov.uk/catchment-planning/	Environment Agency published datasets therefore no additional assurance required
3 rd Party schemes	Information to be provided by RMAs in a mapped layer to overlay on surface water flood risk layer.	TBC



4. Reporting thresholds and outputs

4.1. This section includes a detailed description of:

- The reporting thresholds used to categorise the base year and baseline performance risk across our short, medium and long term planning horizons and
- The outputs that will be reported.

Reporting thresholds and planning horizons

4.2. DWMP guidance provides the following expectations for industry standardised reporting thresholds for this emerging Performance Indicator for DWMP28.

0 / Properties at Low risk (0 to 1% chance each year)¹⁰

1 / Properties at Medium risk (Between 1% to 3.3% chance each year)

2 / Properties at High risk (More than 3.3% chance each year)

Percentages relate to probability of flood risk (flood frequency risk).

Reporting outputs

4.3. The main reporting outputs for this Performance Indicator will be GIS layers for the Thames Water DWMP portal showing the risk level (high, moderate, low) for each DWMP reporting level, for the base year (2030) and the baseline performance for the planning horizons 2035, 2045 and 2055.

4.4. DWMP reporting level:

Mapping

- Level 1 (L1) Company-wide
- Level 2 (L2) River basin catchment
- Level 3 (L3) System level mapping will be available

Data Tables

- To be produced for L1 however the construct of the data tables is still under discussion

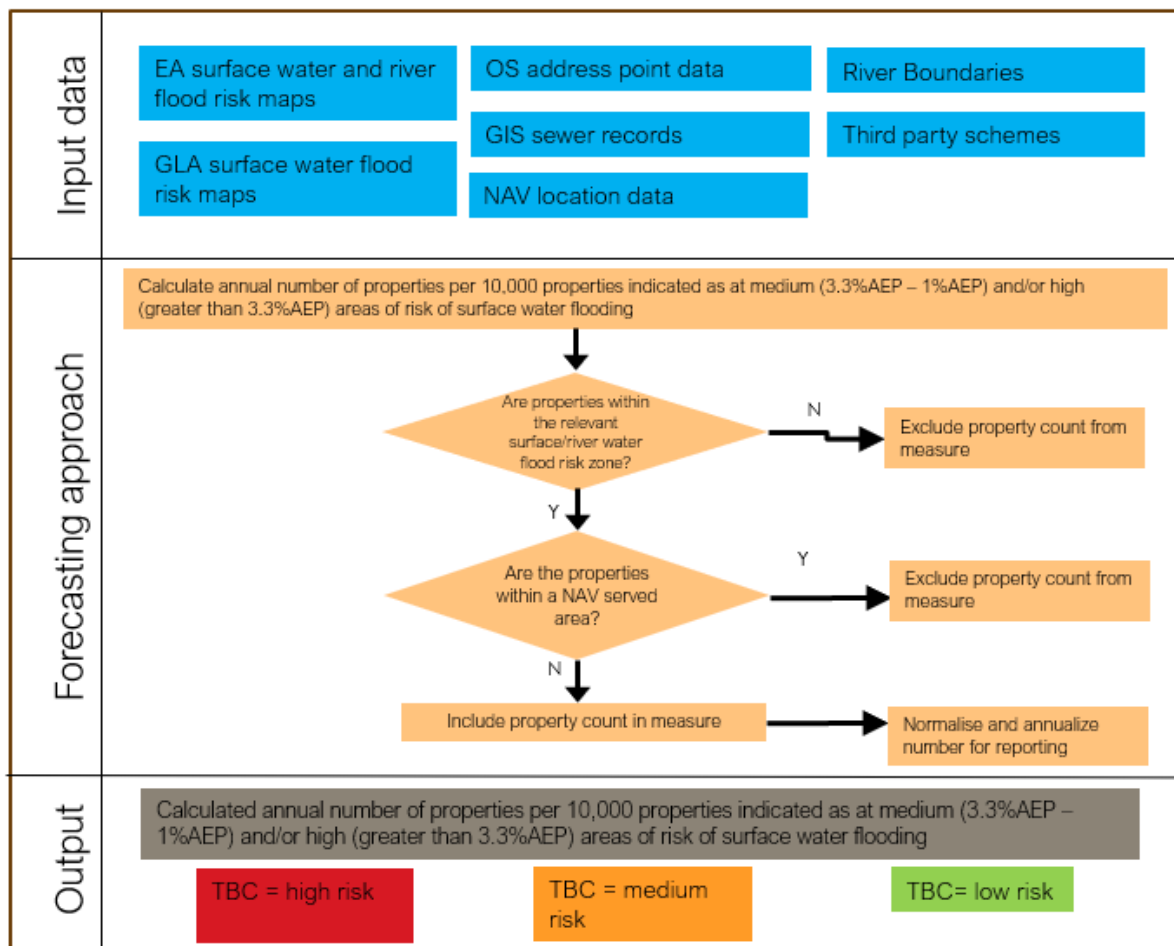
¹⁰ Not required for the data tables



5. Performance Indicator methodology

5.1. The following methodology will be applied to base year and baseline performance Surface Water Flooding (Shared Responsibility) risk. The approach is illustrated in Figure 1.

Figure 1: Performance Indicator methodology



Base year performance – 2030

5.2. The Base year is the first year that is assessed for performance and level of risk at the start of the DWMP 25-year planning period. For example, for DWMP28 it is 2030.

5.3. Using Environment Agency pluvial / fluvial data sources outlined in Table 2 and overlaying with address point data, we will determine the count of commercial / residential properties situated in each of the risk zones required by the performance metric. Properties within NAV areas will be removed.

5.4. The count of residential properties for Level 1, 2, and 3 DWMP scales, will be normalised by calculating the properties depicted to be at risk per 10,000 properties as per the DWMP guidance.



Future baseline performance – 2035-2055

- 5.5. For future baseline performance uplift this will be based on the information provided by the Environment Agency as part of their assessment of climate change impact and as included in their mapping. The EA Risk of Flooding from Surface Water (RoFSW) maps contain a current and 2040-60 forecast, this will need to be interpolated for the DWMP time horizons, similarly for Risk of Flooding from Rivers and the Sea (RoFRS) maps. No further post processing of the EA data will be applied.
- 5.6. For the purposes of DWMP28 consistency the number of connections used to normalise the data will be held fixed over the duration of the 25-year planning period, this is to ensure that risks maintain their priority over the duration of the plan.
- 5.7. In addition, no allowance is made for new properties being built across future planning horizons as they will be subject to 1 in 200 flood protection in line with national planning policy and therefore will not be at risk of flooding within the boundaries of this Performance Indicator measure.

Assessment

- 5.8. Using the methods outlined above, the percentage is then converted into the relevant threshold for reporting purposes at each spatial scale.

Assessing the value of performance

- 5.9. 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.

6. Next steps

- 6.1. We will generate the required data for this Performance Indicator, look to collaborate with other RMAs on the identification of opportunity (synergy) areas and take learning from this DWMP to inform later DWMPs.
- 6.2. We will review the base data available from external stakeholders and incorporate this into further DWMPs/annual updates as appropriate.



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.

