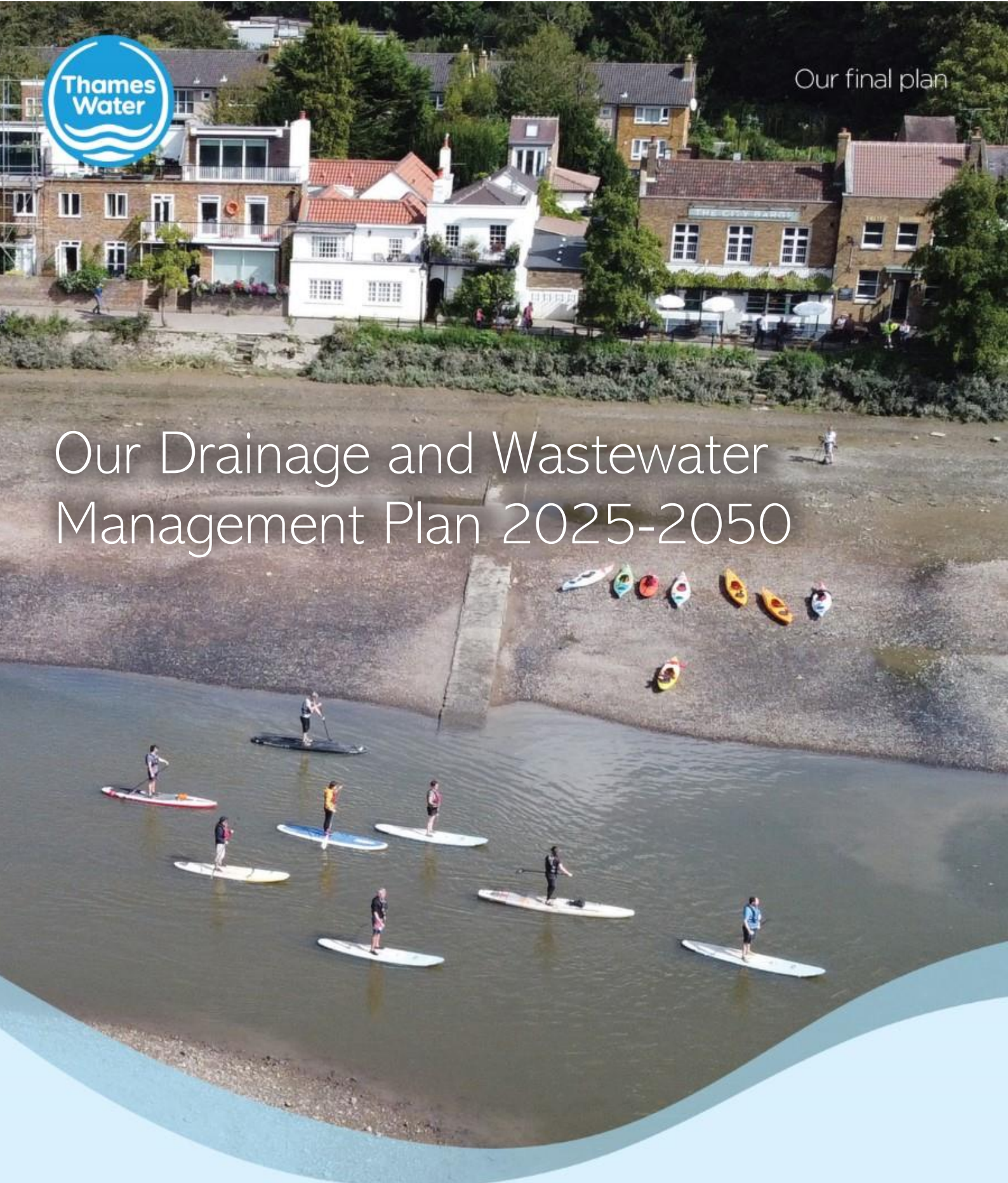




Our final plan

# Our Drainage and Wastewater Management Plan 2025-2050





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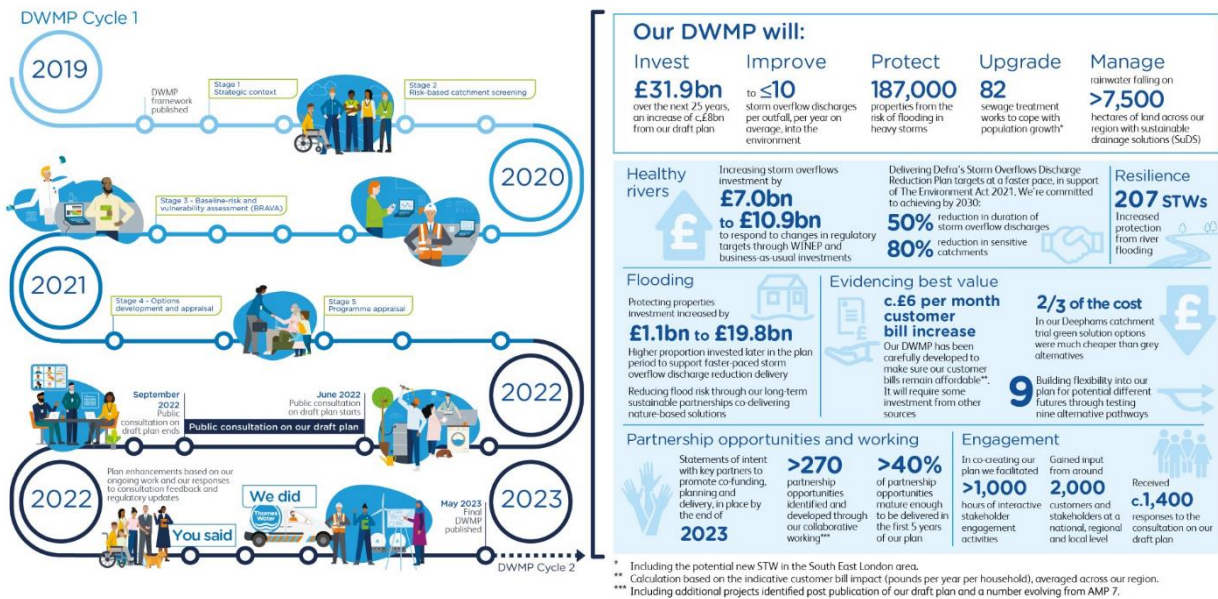


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## Preface

We're proud to present our first Drainage and Wastewater Management Plan (DWMP) and encouraged by the level of positive feedback we've received. Over the last four years, we've engaged and worked collaboratively with around 2,000 of our customers and stakeholders, to deepen our shared understanding and develop new ways to manage drainage and wastewater across our region. We illustrate our DWMP Cycle 1 and its headlines below.



We've progressed and enhanced our DWMP since we published it for public consultation in June 2022. We were pleased to receive lots of positive comments and support on the quality and ambition of our draft plan as well as useful ideas for making our final DWMP even stronger.

We've updated our draft plan based on our ongoing DWMP work, regulatory updates and our responses to the consultation feedback wherever possible\*. Our updates include providing more detail where you felt it was needed and creating new appendices to answer technical queries. For more details on how we've progressed our final plan and responded to the consultation feedback, please see our [Non-technical summary](#) and [You said, We did Technical appendix](#).

\* Some public consultation feedback didn't require further action or wasn't relevant to the DWMP process. Other feedback was relevant to future DWMP planning cycles and will be used to inform this work.

### Progress signposts

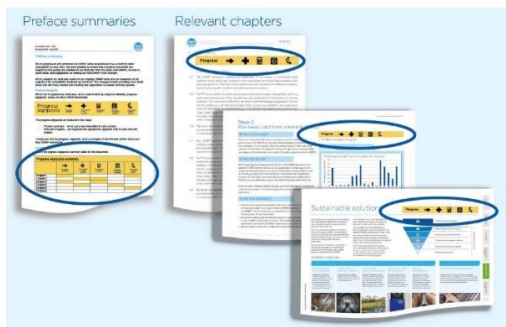
We want to make it easy for you to see what's changed. You can spot all the places we've updated our draft plan with our 'progress signposts' which we've used across our final DWMP documents.

<b>Progress signposts</b>					
	Progress updated	More detail or new content	Number(s) updated	Delivery timeframe updated	Informing DWMP cycle 2

Here’s where they’ll be:

- Preface summaries – we’ve put a summary table in each document’s preface (excluding Summary documents and CSPs)
- Relevant chapters – we’ve placed the appropriate signposts next to each relevant chapter (including Summary document and CSPs)

To help you find our progress signposts, here are examples of what to look out for:



### Progress summary table

The progress signposts summary table for the chapters in this document is outlined below. We’ve used orange cells to indicate where our draft plan has been updated with progress.

Progress signposts summary: Risk-Based Catchment Screening	
	Progress updated More detail or new content Number(s) updated Delivery timeframe updated Informing DWMP cycle 2
1 Our Drainage and Wastewater Management Plan (DWMP)	No significant change between the draft and final DWMP
2 Risk-Based Catchment Screening	
3 Characterising Current Performance	
4 Screening Criteria	
5 Summary Outputs	

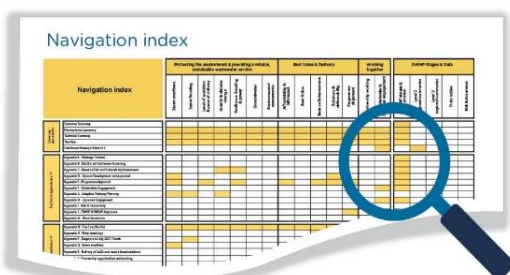
### Key DWMP content

This document specifically includes the following key DWMP content:

- DWMP stages and process

### Navigating our documents

To help you navigate around our final DWMP document suite and find where key DWMP content features, we’ve placed a Navigation index at the back of this document.



## Executive Summary

Risk-Based Catchment Screening (RBCS) forms the second development stage of the Drainage and Wastewater Management Plan (DWMP). A high-level risk screening process, its aim is to identify which catchments warrant further long-term vulnerability investigation. This approach focuses the more detailed assessments of the next DWMP stage on catchments with potential risk that may require mitigation in the near-, medium- or long-term.

All of our 382 catchments have undergone RBCS to characterise the level of future risk and determine where further investigations are required.

This screening identified 293 catchments [equating to 77% of catchments, or 99.8% of the total population equivalent (PE<sup>1</sup>)] that breached indicator thresholds. These catchments require progression to the Baseline Risk and Vulnerability Assessment (BRAVA) and problem characterisation stage.

The remaining 89 catchments have been characterised as low risk by the RBCS process and are unlikely to be vulnerable to changes in future inputs. These catchments represent a combined PE of 32,780, or 0.2% of the total population equivalent.

We worked in partnership with our Level 2 stakeholders, presenting our initial results at the Thames Regional Flood and Coastal Committee (TRFCC), sub-regional partnership area meetings and Catchment Partnership meetings, prior to their finalisation. The results were well received by our stakeholders, with nearly all our catchments passing through to BRAVA and further assessment.

Wider community input was also sought, with the RBCS results posted on our DWMP portal<sup>2</sup>, and feedback requested via our dedicated DWMP mailbox. This engagement highlighted two catchments, originally screened out, to be subsequently reinstated and passed through to BRAVA.

The RBCS stage has undergone 5 differing means of assurance including, but not limited to, the aforementioned community agreement on catchment inclusion, and sensitivity testing on the number of indicators breached.

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<sup>1</sup> Population equivalent (PE) is defined in appendix B.2.1.1 [https://www.water.org.uk/wp-content/uploads/2018/12/Water-UK-DWMP-Framework-Report\\_APPENDIX-B.pdf](https://www.water.org.uk/wp-content/uploads/2018/12/Water-UK-DWMP-Framework-Report_APPENDIX-B.pdf) and is the calculated equivalent number of people served based on the organic load measured at a STW.

<sup>2</sup> <https://storymaps.arcgis.com/stories/201050209c7a4658a1c2265aa4411375>

# 1 Our Drainage and Wastewater Management Plan (DWMP)

## Progress

No significant change between the draft and final DWMP

### Our DWMP Vision

- 1.1 Working in partnership to co-create a 25-year plan for drainage and wastewater that sustainably benefits communities and the natural environment in our region.

### Our DWMP aim

- 1.2 To identify future catchment risks to our drainage and wastewater treatment systems and develop sustainable, efficient solutions to address them.

### What we are trying to achieve

- 1.3 Protection of our environment, looking after the health of our rivers (aiming for zero harm from storm discharges), being resilient to the risks of flooding and generating wider benefits to the communities we serve. DWMP outcomes for:
  - Customers and communities – fair charges, improved health and wellbeing, increased amenity, and a resilient service
  - Drainage and wastewater services – reduce sewer flooding and achieve 100% Sewage Treatment Works (STW) compliance
  - The environment – increase biodiversity, zero harm from storm overflow discharges, environmental net gain

### Description of the plan

- 1.4 The DWMP is a long-term costed plan which sets out the future risks and pressures for our drainage and wastewater systems. It identifies the actions required to make sure we can continue delivering our services reliably and sustainably. By focusing on a partnership approach, these actions simultaneously achieve positive outcomes for our customers, communities and environment.
- 1.5 Our long-term, collaborative plan aims to ensure a resilient and sustainable wastewater service for the next 25 years and beyond.

### Framework

- 1.6 This is the first time we've produced a long-term plan for our wastewater business. Based on the national DWMP framework<sup>3</sup>, developed jointly by regulators and industry bodies<sup>4</sup>, the DWMP creates a roadmap for how we adapt our wastewater service to cope with future challenges.

<sup>3</sup> <https://www.water.org.uk/wp-content/uploads/2019/09/Working-together-to-improve-drainage-and-environmental-water-quality-an-overview-of-Drainage-and-Wastewater-Management-Plans.pdf>

<sup>4</sup> Water UK; Defra; Welsh Government; Ofwat; Environment Agency; Natural Resources Wales; Consumer Council for Water; Association of Directors of Environment, Economy, Planning & Transport; Blueprint for Water

## 2 Risk-Based Catchment Screening

### Progress

No significant change between the draft and final DWMP

### Introduction

2.1 The DWMP uses a risk-based assessment approach that focuses effort where there is an identified risk or vulnerability. Its first stage is to identify the Strategic Context and setting planning objectives. The second stage, Risk-Based Catchment Screening (RBCS), is a high-level review of existing issues, using published data and catchment knowledge.

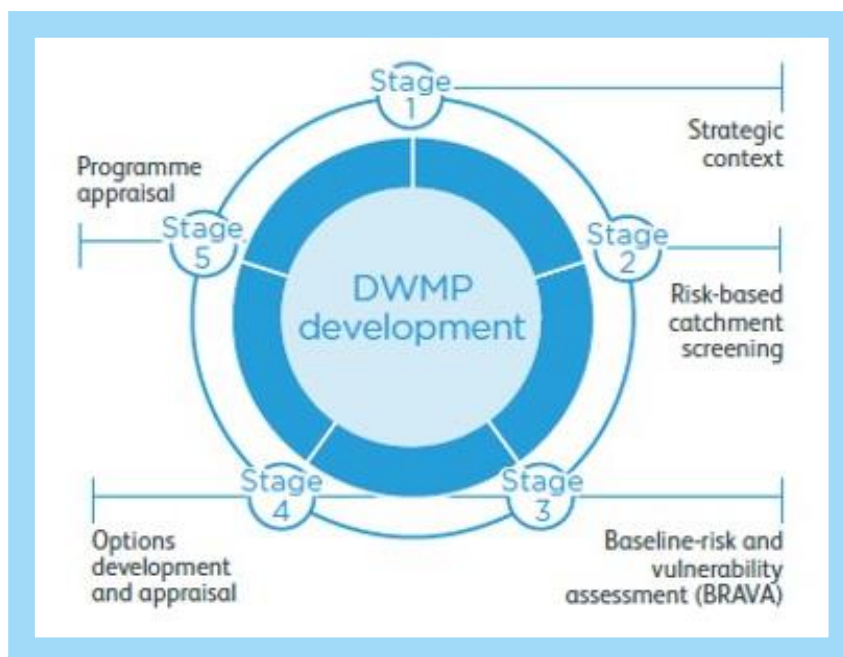


Figure 2-1 DWMP development process

### Approach

- 2.2 RBCS identifies catchments where further investigations are necessary - to confirm if there are medium- and long-term risks that will require mitigation.
- 2.3 There will be catchments that have operated without issue for many years, can accommodate future growth, and are also resilient to future changes. Through RBCS, these catchments are identified and classified as low risk for future stages of assessment.
- 2.4 Equally, there are catchments with known performance issues and/or those known to be vulnerable to future changes. RBCS identifies these catchments using an industry-consistent methodology and forwards them to the next planning stage – Baseline Risk and Vulnerability Assessment (BRAVA). The BRAVA stage assesses the baseline risk and vulnerability to future risks, in relation to the DWMP planning objectives.
- 2.5 RBCS aims to:



- Share information on problems and vulnerabilities that are already being experienced/have been identified and highlight common issues
- Focus efforts on those catchments/areas that present the greatest risk to the environment and our communities in the future

2.6 This report provides a summary of how Thames Water has followed the industry framework in delivering the RBCS process and outputs. The industry framework is contained within Appendix B of the DWMP Framework document<sup>5</sup>.

### Assurance

2.7 We have assured this screening stage through:

- Our internal governance framework for the release of external data which required the production of a detailed methodology document, internal audit, review and sign-off from the heads of department, and a corporate gateway release session
- External annual performance commitment auditing which ensures that we are compliant with the intent of the DWMP framework
- Comparison to other companies' experiences of the screening stage
- Local stakeholders' agreement with the catchments progressing to the next stage of DWMP
- Sensitivity testing on the number of metrics breached

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<sup>5</sup> [https://www.water.org.uk/wp-content/uploads/2020/01/Water\\_UK\\_DWMP\\_Framework\\_Appendices\\_September-2019-B.pdf](https://www.water.org.uk/wp-content/uploads/2020/01/Water_UK_DWMP_Framework_Appendices_September-2019-B.pdf)

### 3 Characterising Current Performance

#### Progress

No significant change between the draft and final DWMP

- 3.1 RBCS<sup>6</sup> involves an assessment of each catchment against 17 indicators, using information that is sourced from our reporting systems or from other relevant stakeholders.
- 3.2 Whilst the Water UK guidelines allow further bespoke indicators to be included (if there are additional specific company or customer priorities), none are required for this first iteration of the DWMP. Our investigations have confirmed that the 17 indicators used adequately account for the risks and vulnerabilities in our catchments.
- 3.3 For many metrics, performance is measured over a rolling two- or three-year period. For the first DWMP, this includes 2017 to 2019; i.e., data included within our annual performance reports from 2017, 2018 and 2019.
- 3.4 The 17 indicators cover performance across the following risk categories:
  - Environment
  - Flooding
  - Asset Health
  - Wider catchment risks
- 3.5 Table 3-1 provides a summary of the RBCS indicators and the methodologies applied.

#### Working in Partnership

- 3.6 The derivation of the 17 indicators used is fundamental to the RBCS approach. We consulted with DWMP stakeholders via industry wide DWMP steering group sessions on the metrics chosen.

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<sup>6</sup> [https://www.water.org.uk/wp-content/uploads/2020/01/Water\\_UK\\_DWMP\\_Framework\\_Appendices\\_September-2019-B.pdf](https://www.water.org.uk/wp-content/uploads/2020/01/Water_UK_DWMP_Framework_Appendices_September-2019-B.pdf)

	Indicator	Tier	Purpose	Methodology
Environment	Pollution incidents (categories 1 and 2)	1	A historical measure that identifies incidents of unexpected release of contaminants that have resulted in environmental damage.	The EA National Incident Reporting System of pollution incidents was inspected. A catchment is considered to have breached the indicator if it experienced a Category 1 (major) or Category 2 (significant) pollution incident in the three previous years.
	Sewage treatment works quality compliance	1	A historical measure relating to the performance of the sewage treatment works.	The EA Annual Performance Report (APR) records for sewage treatment works were assessed, with a catchment considered to have breached the indicator if a permit failure had occurred in the three previous years.
	Intermittent discharges impact upon bathing or shellfish waters	1	To understand the significance of any impact of water company operations on bathing or shellfish waters.	A catchment was considered to have breached the indicator if the catchment boundary intersected a bathing or shellfish water.
	Continuous or intermittent discharges impact upon other sensitive receiving waters Part A – if the Sites of Special Scientific Interest (SSSI), Natura 2000 or Ramsar sites are labelled “Remedy” by Natural England (NE)	1	To understand the significance of any impact of water company operations on environmental receptors.	All “Remedy” sites were downloaded from the Natural England database and joined with the SSSI Graphical Information System (GIS) layer for spatial analysis. A catchment was considered to have breached the indicator if the catchment boundary intersected a “Remedy” site.



	Indicator	Tier	Purpose	Methodology
	Continuous or intermittent discharges impact upon other sensitive receiving waters Part B – if the SSSI, Natura 2000 or Ramsar sites are labelled “Threat” by Natural England	2	To understand the significance of any impact of water company operations on environmental receptors.	All “Threat” sites were downloaded from the Natural England database and joined with the SSSI (Sites of Special Scientific Interest) GIS layer for spatial analysis. A catchment was considered to have breached the indicator if the catchment boundary intersected a “Threat” site.
	The Water Industry National Environment Programme (WINEP)	1	Identifies where there are specific WINEP drivers and thus it is considered necessary that a long-term approach to managing the issues is developed.	A catchment was considered to have breached the indicator if the catchment boundary intersected or was closest to a WINEP driver location.
Flooding	Wastewater Resilience Catchment characterisation	2	To understand the vulnerability of the catchment/sub-catchments to sewer flooding due to an extreme wet weather event.	Catchments serving a population equivalent (PE) greater than 2000 and were at risk of sewer flooding in a 1 in 50-year (2% probability) storm were considered to have breached the indicator.

	Indicator	Tier	Purpose	Methodology
	Internal sewer flooding	1	A historical measure that records the number of internal sewer flooding incidents per year, indicative of capacity constraints.	The Sewer Flooding History Database (SFHD) was assessed following the removal of extreme weather event incidents ( $\geq 21$ years) and hydraulic incidents that have since had permanent solutions applied. The number of internal sewer flooding incidents was then normalised to derive an annual count by 'per 10,000 connected properties'. Catchments with any of the three previous years' annual normalised values greater than 1.44 were considered to have breached the indicator.
	External sewer flooding	1	A historical measure that records the number of external sewer flooding incidents per year, indicative of capacity constraints.	The SFHD was assessed following the removal of extreme weather event incidents ( $\geq 21$ years) and hydraulic incidents that have since had permanent solutions applied. The number of external sewer flooding incidents was normalised to derive an annual count by 'per 10,000 connected properties'. Catchments with any of the three previous years' annual normalised values greater than 1.44 were considered to have breached the indicator.
Asset Health	Storm Overflow Assessment Framework (SOAF)	1	To capture current SOAF investigations or where investigations are likely to be triggered within next five years.	Catchments containing storm overflows that have their discharge frequencies monitored were identified to represent the locations of both the current SOAF investigations and



Indicator	Tier	Purpose	Methodology
Storm overflows	1	A measure that focuses on using available data to examine permit risks that have not been captured by other indicators.	Historic operational knowledge and hydraulic model results were used to identify catchments with storm overflow issues and were considered to have breached the indicator.
Capacity Assessment Framework (CAF)	1	To provide an indication of capacity constraints in the network as a leading indicator of service failure.	Hydraulic models were used in accordance with 21st Century Drainage <sup>7</sup> Programme Capacity Assessment Framework to understand the available capacity of our sewer systems. Catchments that contained areas identified as having the worst performance (grades 4 and 5) were considered to have breached the indicator.
Sewer collapses	N/A	A historical measure that identifies risks to the integrity of the sewer system.	Catchments serving a PE of less than 2000 were considered to have breached the indicator if >2 collapses per year have been recorded in the three previous years. Catchments serving a PE of greater than 2000 were considered to have breached the indicator if the number of collapses normalised by sewer length in the last three years was greater than the Company average >2

<sup>7</sup> <https://www.water.org.uk/wp-content/uploads/2018/12/Capacity-Assessment-Framework-Project-Report-Final.pdf>

	Indicator	Tier	Purpose	Methodology
	Sewer blockages	N/A	A historical measure that records obstructions in a sewer (that requires clearing) which causes a reportable problem (not caused by hydraulic overload).	<p>collapses per year have been recorded in the three previous years.</p> <p>The number of blockages reported were extracted and normalised by total sewer length by catchment. Catchments with normalised average blockages greater than the company average, in any of the three previous years, were considered to have breached the indicator.</p>
Wider Risks	Risks from interdependencies Between Risk Management Authority (RMA) drainage systems	1	A mechanism to understand risk posed by interdependencies/interactions between RMA drainage systems in the catchment.	Detailed Ordnance Survey maps were used to identify properties and gardens within the EA 1 in 100-year Flood Risk for Surface Water Map. These catchments were considered to have breached the indicator.
	Planned residential new development	1	A measure to understand the risks from forecast residential population growth based on company specific existing long-term forecasts.	Local Authority based growth forecasts were used to identify the percentage PE increase for 10 and 25 years from the 2017 Base Year. Catchments which met or exceeded the thresholds in Table B-3, DWMP Framework Appendix B <sup>8</sup> were considered to have breached the indicator.

Table 3-1 RBCS Indicators

<sup>8</sup> [https://www.water.org.uk/wp-content/uploads/2020/01/Water\\_UK\\_DWMP\\_Framework\\_Appendices\\_September-2019-B.pdf](https://www.water.org.uk/wp-content/uploads/2020/01/Water_UK_DWMP_Framework_Appendices_September-2019-B.pdf)

## 4 Screening Criteria

### Progress

No significant change between the draft and final DWMP

- 4.1 Catchments proceed to BRAVA if:
  - **Two or more** indicators are breached (excluding sewer collapses and blockages); or
  - **One first-tier** indicator is breached (excluding sewer collapses and blockages)
- 4.2 If **only** the sewer collapses and/or blockages indicators are breached, then this should be treated as if no indicators are breached. This aligns to the DWMP framework for RBCS.
- 4.3 Where there is missing data/information and it cannot be confirmed whether an indicator is breached (or not), then this should be treated as a breach of the indicator. Therefore, the catchment progresses to BRAVA.
- 4.4 If no indicators are breached, the implication is that there is no current evidence to suggest that the catchment is likely to be vulnerable to changes in future inputs. In this case, no detailed BRAVA is required, and the catchment is classified as low risk. In accordance with the industry framework, the catchment defaults to standard business as usual risk management planning processes.
- 4.5 The results are shared with stakeholders who can challenge catchment inclusion or exclusion, as appropriate.



## 5 Summary Outputs

### Progress

No significant change between the draft and final DWMP

- 5.1 We have 382 catchments – referred to as Level 3 Tactical Planning Units (TPUs) in DWMP industry framework documentation – that typically include a sewage treatment works and the network that drains to it.
- 5.2 Each catchment has been assessed against the 17 RBCS metrics. Figure 5-1 shows the percentage of catchments that fail each indicator, highlighting that half of the indicators are only breached by 10% of catchments. External Sewer Flooding, Risks from Surface Water Flooding, Planned Developments and Sewer Blockages are breached by over 50% of catchments.

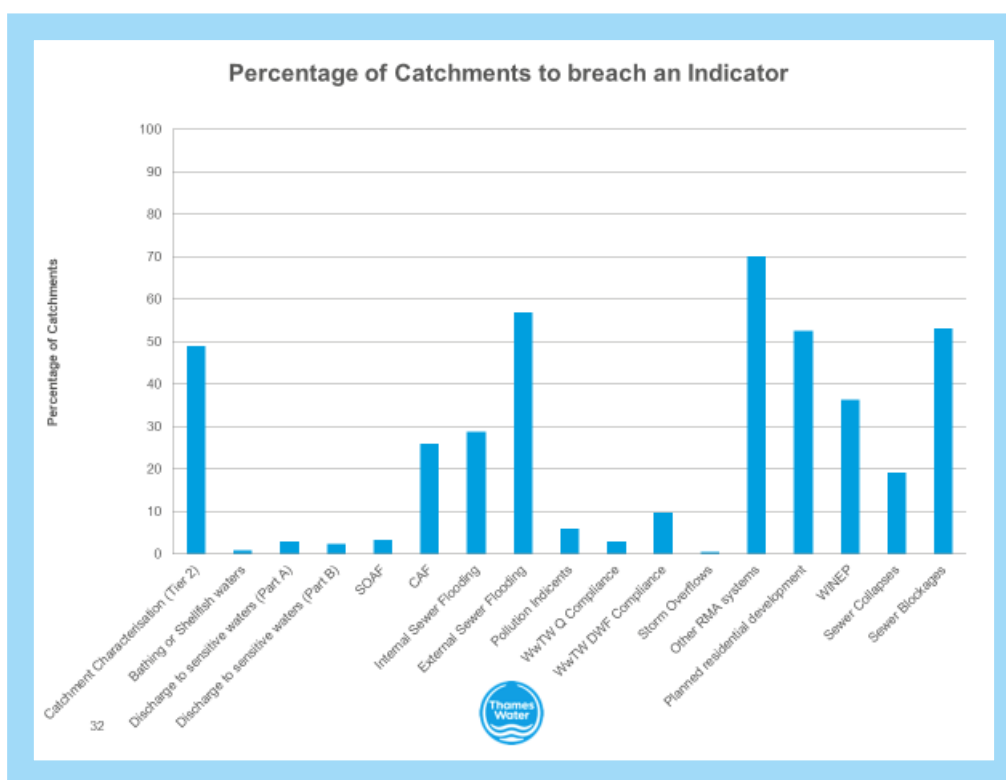


Figure 5-1 Percentage of catchments breaching each indicator to demonstrate the significant differences between the indicators

- 5.3 This process has identified that 293 catchments – 77% of all catchments, but 99.8% of the total population equivalent (PE) – breach enough indicators to require progression to the BRAVA and problem characterisation process step.
- 5.4 Further analysis of the results, presented in Figure 5-2, shows that the larger urban conurbations breach the greatest number of indicators. All the largest catchments - with a PE greater than 100,000 - breach the Catchment Resilience, External Sewer Flooding and Surface Water Risk indicators.

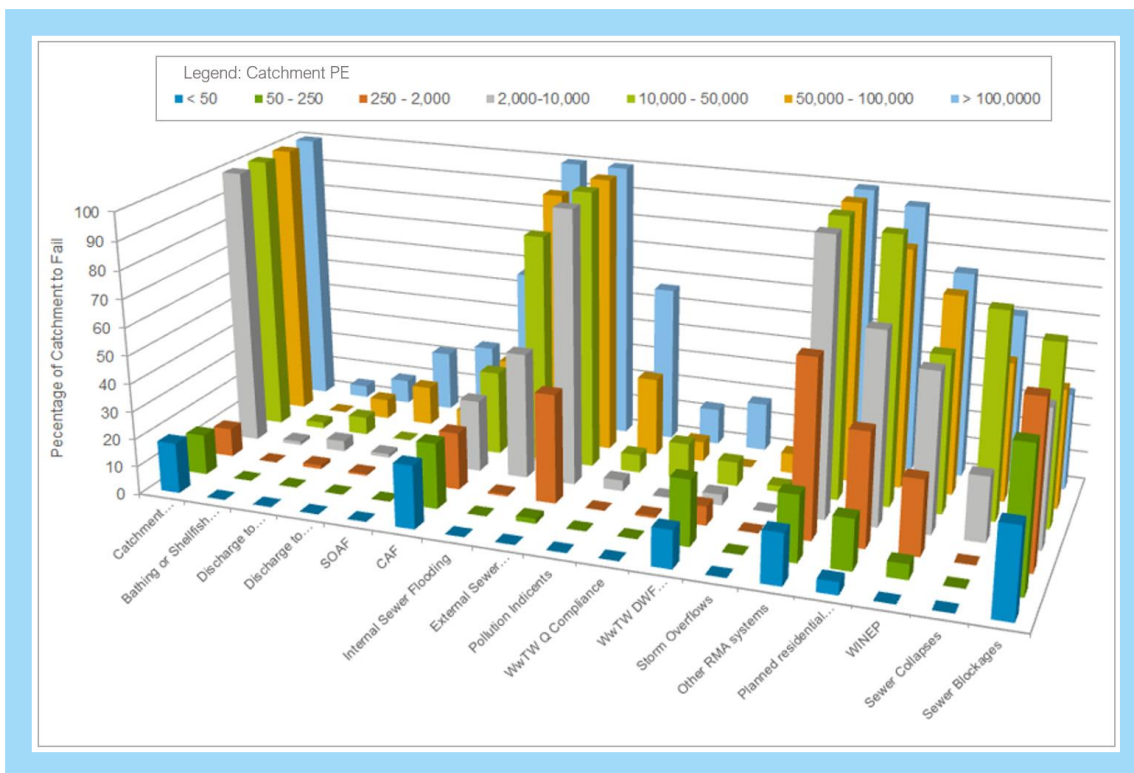


Figure 5-2 Percentages of catchments breaching each indicator showing the trend of the increasing number of breaches as PE increases

- 5.5 Eighty-nine catchments have been screened and characterised by the RBCS process as low risk and unlikely to be vulnerable to changes. Full pass/fail summaries for each of the 382 catchments by RBCS indicator are provided in Appendix A.
- 5.6 These 89 screened catchments are relatively small and rural, representing a combined PE of 32,780, or 0.2% of the total PE.

## Level 2 – Strategic Planning Areas: Thames Regional Flood and Coastal Committee (TRFCC) Areas

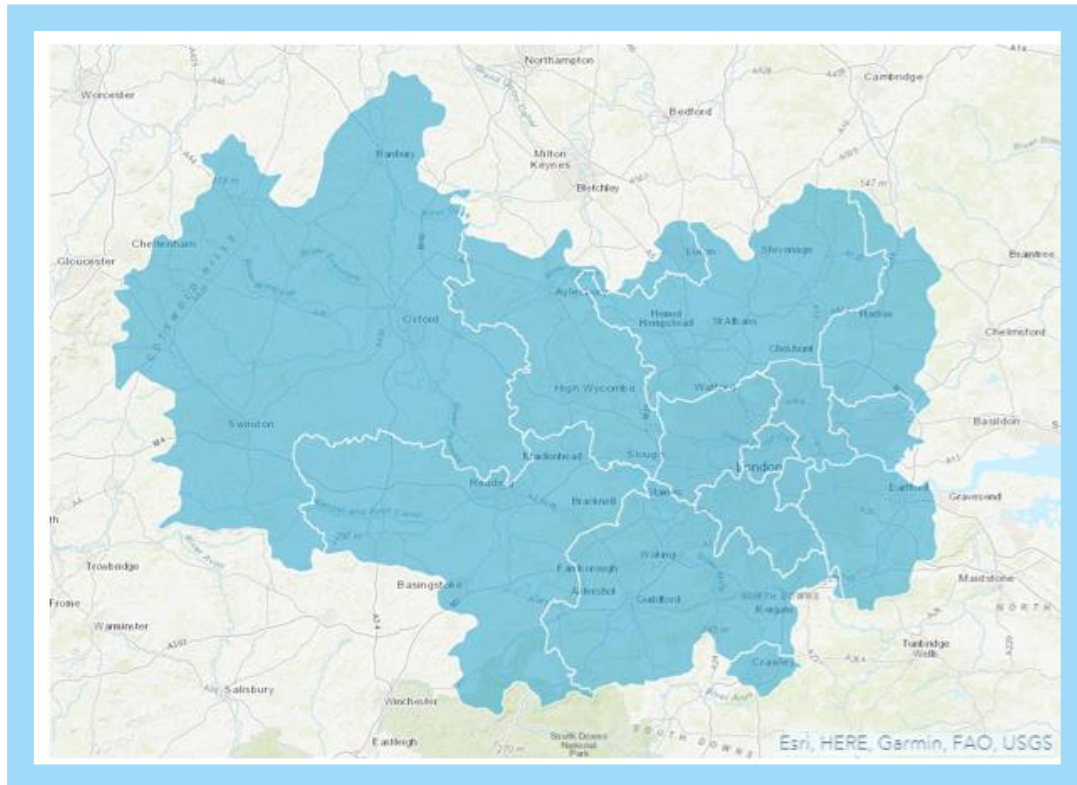


Figure 5-3 Level 2 Thames Regional Flood and Coastal Committee (TRFCC) areas

5.7 There are no TRFCC areas (see Figure 5-3) that have all their catchments screened out and thus classified as low risk.

### Working in Partnership

5.8 We worked in partnership with our Level 2 Stakeholders by presenting our initial results during TRFCC and Catchment Partnership meetings, prior to their finalisation. The results were well received, although this was as expected, as most catchments passed through to the next stage of DWMP.

5.9 To allow wider community input, we posted the RBCS results on the DWMP portal<sup>9</sup>, provided a mailbox and requested feedback. We gained valuable insight from stakeholders regarding two catchments that had been screened out by RBCS, but that they considered to be at risk. Specifically, additional information provided by our stakeholders on the extent of fluvial and surface water flood risk justified a long-term approach. Accordingly, these two catchments were then progressed to the BRAVA stage.

### Sensitivity Analysis

5.10 The small number of catchments removed by the screening exercise triggered a review of the process to verify that the RBCS was effective and meaningful. A sensitivity analysis of

<sup>9</sup> <https://storymaps.arcgis.com/stories/201050209c7a4658a1c2265aa4411375>

the number of indicators breached was performed to (a) consider if such a small removal of catchments was appropriate and (b) how the results would vary if less stringent conditions were imposed on the number of breaches allowed.

5.11 Our assessment confirmed that the basis upon which a catchment passes forward to the BRAVA phase is the correct approach. I.e., breaching a single tier 1 indicator progresses a catchment. Figure 5-4 demonstrates that if the progression threshold increased to five indicator breaches, 159 catchments would be screened out; however, this only equates to 1% of the overall PE and would result in the exclusion of some important and vulnerable catchments that are at considerable risk.

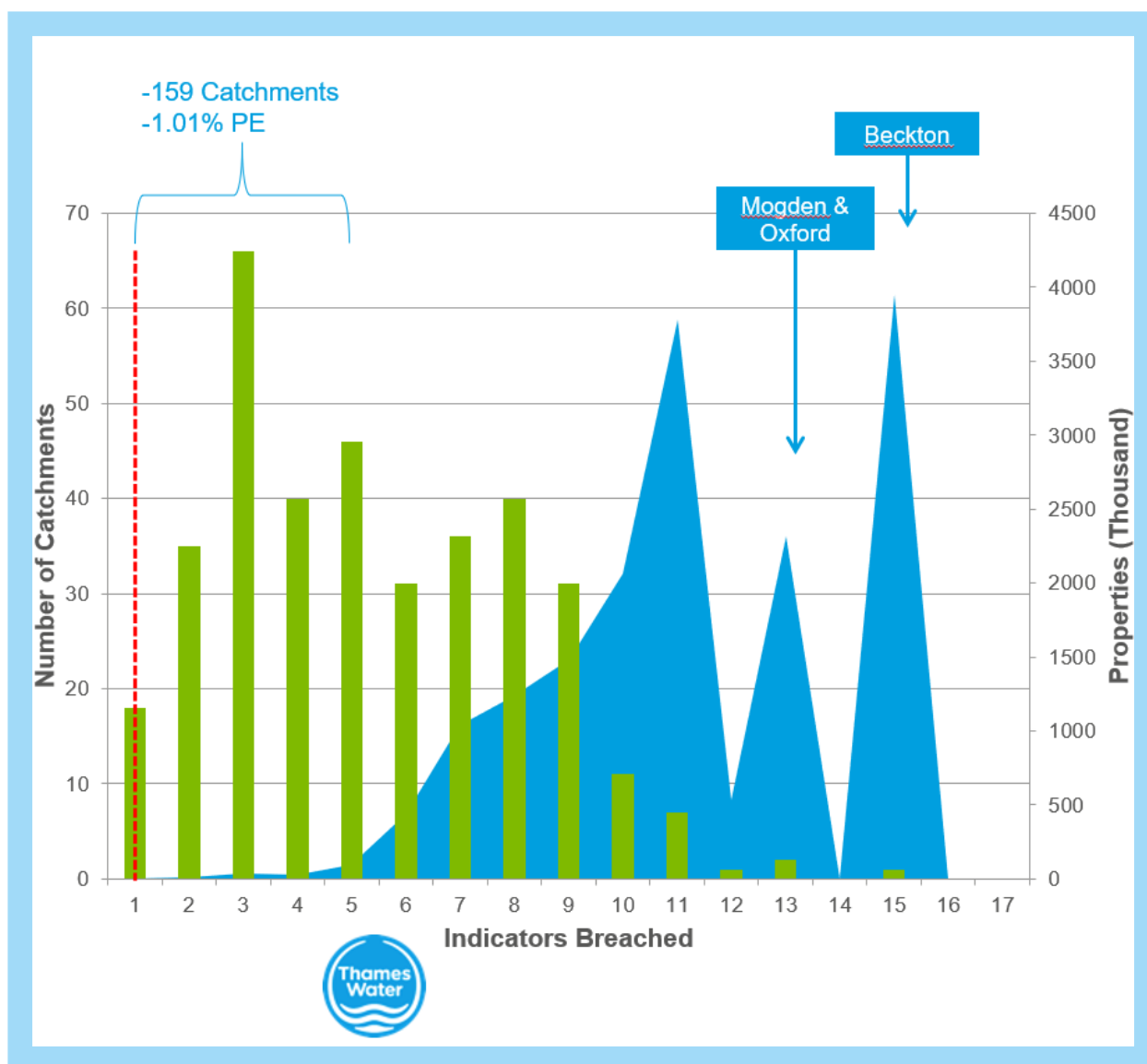


Figure 5-4 Sensitivity of the number of catchments and the PE served against the number of indicators breached

### Benchmarking

5.12 We also benchmarked our results with a cross industry comparison. This showed that our results were not an outlier to general industry experience, in terms of PE of catchments passing through to the next stage.

## Review

- 5.13 The results presented in this report come from the first iteration of the RBCS performed in 2019 and have identified which catchments passed to BRAVA in the first DWMP. The RBCS will be reviewed annually on an exception basis, i.e., if new catchment risk becomes known. Any risk changes will additionally be incorporated into the next DWMP.
- 5.14 It is important to note that as catchments progress through to subsequent stages of DWMP, their risk position may change. This would be due to new data from the progressively more detailed analysis. Hence, not all catchments identified at the RBCS stage, for inclusion in the DWMP planning process, will end up with an investment requirement in the final plan. Some catchments may result with 'monitor only' as an intervention for the first cycle; an approach aligned with the DWMP framework.
- 5.15 As part of early preparation for the second cycle of DWMP, an industry wide Task and Finish group has been set up to review the RBCS process. The group will make recommendations on the indicators used as well as refinements to the RBCS process.

## Appendix A: RBCS Collated Outputs

### A.1 2019 RBCS collated outputs\_redacted.xlsx

The notes below describe the colour coding used in the following tables:

- The colour coding assigned to the outcome of the RBCS assessment for each catchment has been aligned to the colour scheme used for the Capacity Assessment Framework (CAF). However, whereas the shade of colour used in the CAF is indicative of level of risk, for RBCS the colour scheme is purely a binary flag signifying whether an indicator has triggered (or not) proceeding to BRAVA. ‘Dark blue’ signals a Tier 1 indicator trigger, whilst ‘light blue’ denotes a Tier 2 indicator trigger. ‘Light yellow’ shows where an indicator does not trigger either tier. ‘Orange’ displays catchments where our network assets drain into a neighbouring-company-owned sewage treatment works. The subsequent indicator data for the sewage treatment works has a blank cell as this data will be part of the neighbouring company's RBCS return.
- The colour scale does not indicate the extent of the ‘pass’ or ‘fail’ of the screening criteria. The subsequent BRAVA process will assess performance in more detail for catchments breaching RBCS. Where assessments are shown as ‘light yellow’ this does not necessarily suggest that there are no performance issues in that particular catchment, it only suggests that performance is below the threshold set by the RBCS assessment.



Level 3 Tactical Planning Unit		Total Population Equivalent (Per APR Table 4S Line 16 for Thames Water waste treatment catchments)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
Ref	Name		Catchment Characterisation (Tier 2)	Bathing or shellfish waters	Discharge to sensitive waters (part A)	Discharge to sensitive receiving (part B) (Tier 2)	SOAF	CAF	Internal Sewer Flooding	External Sewer Flooding	Pollution Incidents	WwTW Q compliance	WwTW DWF compliance	Storm overflows	Other RMA systems	Planned residential development	WINEP	Sewer Collapses	Sewer Blockages	Bespoke Indicators (Tier 2)	Proceed to BRAVA?
YATTS1ZZ	YATTENDON STW	141																		TBC	YES
WORMS1ZZ	WORMINGHALL STW	3,495																		TBC	YES
Non Thames Water Treatment	WOOTTON BASSETT (WW) STW	228									-	-				-				TBC	NO
WOOLS1ZZ	WOOLHAMPTON STW	1,290																		TBC	YES
WOODS2ZZ	WOODSTOCK STW	4,248																		TBC	YES
WOODS1ZZ	WOODEATON STW	67																		TBC	YES
WOLVS2ZZ	WOLVERTON TOWNSEND STW	21																		TBC	YES
WOLVS1ZZ	WOLVERTON COMMON STW	11																		TBC	YES
WOKIS1ZZ	WOKING STW	77,242																		TBC	YES
WITNS1ZZ	WITNEY STW	47,822																		TBC	YES
WITHS1ZZ	WITHINGTON STW	231																		TBC	NO
WISLS1ZZ	WISLEY STW	23,369																		TBC	YES
WINTS1ZZ	WINTERBOURNE STW	63																		TBC	YES
WINGS1ZZ	WINGRAVE STW	1,478																		TBC	YES
Non Thames Water Treatment	WING (ANGLIAN WATER) STW	270									-	-				-				TBC	NO
WINDS1ZZ	WINDSOR STW	36,825																		TBC	YES
WILTS1ZZ	WILTON STW	147																		TBC	YES
WILLS1ZZ	WILLINGALE STW	835																		TBC	YES
WIDFS1ZZ	WIDFORD STW	3,397																		TBC	YES
WICKS1ZZ	WICKHAM STW	234																		TBC	NO
WHITS6ZZ	WHITWELL STW	1,055																		TBC	YES
WHITS5ZZ	WHITTINGTON STW	79																		TBC	NO
WHITS4ZZ	WHITE WALTHAM STW	6,522																		TBC	YES
WHITS3ZZ	WHITE RODING STW	238																		TBC	YES
WHITS1ZZ	WHITCHURCH STW	1,495																		TBC	NO
WHEAS1ZZ	WHEATLEY STW	5,891																		TBC	YES
WEYBS1ZZ	WEYBRIDGE STW	20,103																		TBC	YES
WESTS3ZZ	WESTON-ON-THE-GREEN STW	541																		TBC	YES
WESTS1ZZ	WESTON STW	995																		TBC	YES
Non Thames Water Treatment	WESTCOTT STW (PRIVATE)	418									-	-				-				TBC	YES
WELFS1ZZ	WELFORD STW	365																		TBC	NO
WATLS1ZZ	WATLINGTON STW	2,688																		TBC	YES
WASHS1ZZ	WASH WATER STW	6,802																		TBC	YES
WARWS1ZZ	WARWICK WOLD STW	49																		TBC	NO
WARMS1ZZ	WARMINGTON STW	267																		TBC	NO
WARGS1ZZ	WARGRAVE STW	121,780																		TBC	YES
WANTS1ZZ	WANTAGE STW	28,095																		TBC	YES
WANBS1ZZ	WANBOROUGH STW	2,331																		TBC	YES
WADDS1ZZ	WADDESDON STW	3,392																		TBC	YES
Non Thames Water Treatment	UTTLESFORD STW	40									-	-				-				TBC	NO





















Level 3 Tactical Planning Unit		Total Population Equivalent (Per APR Table 4S Line 16 for Thames Water waste treatment catchments)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
Ref	Name		Catchment Characterisation (Tier 2)	Bathing or shellfish waters	Discharge to sensitive waters (part A)	Discharge to sensitive receiving (part B) (Tier 2)	SOAF	CAF	Internal Sewer Flooding	External Sewer Flooding	Pollution Incidents	WwTW Q compliance	WwTW DWF compliance	Storm overflows	Other RMA systems	Planned residential development	WINEP	Sewer Collapses	Sewer Blockages	Bespoke Indicators (Tier 2)	Proceed to BRAVA?
AVONS1ZZ	AVON DASSETT STW	208																		TBC	NO
ASTOS1ZZ	ASTON LE WALLS STW	264																		TBC	YES
Non Thames Water Treatment	ASTON ABBOTTS (AW) STW	403									-	-			-					TBC	NO
ASHTS1ZZ	ASHTON KEYNES STW	1,306																		TBC	YES
ASHLS1ZZ	ASHLEY GREEN STW	291																		TBC	NO
ASHFS1ZZ	ASHFORD HILL STW	42																		TBC	YES
ASHES1ZZ	ASHENDON STW	194																		TBC	NO
STUBS1ZZ	ASHAMPSTEAD STW	161																		TBC	YES
ASHVS1ZZ	ASH VALE STW	18,201																		TBC	YES
ASHRS1ZZ	ASH RIDGE (WOKINGHAM) STW	14,325																		TBC	YES
ASCOS1ZZ	ASCOT STW	26,198																		TBC	YES
ARBOS1ZZ	ARBORFIELD STW	18,562																		TBC	YES
APPLS1ZZ	APPLETON STW	5,398																		TBC	YES
ANDOS1ZZ	ANDOVERSFORD STW	592																		TBC	YES
AMPNS1ZZ	AMPNEY ST PETER STW	2,367																		TBC	YES
ALTOS1ZZ	ALTON STW	17,808																		TBC	YES
ALDES2ZZ	ALDERSHOT STW	39,800																		TBC	YES
Non Thames Water Treatment	ALDERSHOT (MOD) STW	125																		TBC	NO
ALDES1ZZ	ALDERMASTON STW	354																		TBC	NO
GABLS1ZZ	ADBURY HOLT STW	21																		TBC	NO
ABINS1ZZ	ABINGDON STW	38,791																		TBC	YES
ABBES1ZZ	ABBESS RODING STW	666																		TBC	YES
		<b>15,385,081</b>	<b>159</b>	<b>3</b>	<b>13</b>	<b>8</b>	<b>4</b>	<b>99</b>	<b>113</b>	<b>127</b>	<b>180</b>	<b>12</b>	<b>34</b>	<b>3</b>	<b>52</b>	<b>162</b>	<b>139</b>	<b>67</b>	<b>235</b>	<b>0</b>	<b>293</b>



## Glossary

Term	Description
1 in 30-year storm	A storm that has a 1 in 30 chance (3.33% probability) of being equalled or exceeded in any given year. This does not mean that a 30-year flood will happen regularly every 30 years, or only once in 30 years.
1 in 50-year storm	A storm that has a 1 in 50 chance (2% probability) of being equalled or exceeded in any given year. This does not mean that a 50-year flood will happen regularly every 50 years, or only once in 50 years.
Asset Management Plan (AMP)	A five-year planning cycle used by English and Welsh water industry regulators to set allowable price increases for privately owned water companies and for the assessment of performance indicators such as water quality and customer service.
Baseline Risk And Vulnerability Assessment (BRAVA)	Following Risk Based Catchment Screening (RBCS), more detailed risk assessments on those catchments where we believed there was an adverse risk to performance over time. We modelled their performance to 2020 (baseline), 2030, 2035 and 2050.
Business Plan	Business Plans are produced by water companies every 5 years. They set out their investment programme to ensure delivery of water and wastewater services to customers. These plans are drawn up through consultation with the regulators, stakeholders and customers and submitted to Ofwat for detailed scrutiny and review.
Catchment Strategic Plans (CSPs)	Summary reports to promote system thinking across large wastewater catchments. These provide early sight of our final plans enabling co-authoring opportunities for our stakeholders. Each document outlines the challenges that the catchment will face in the future and the long-term plans to address these issues.
Combined sewer	A sewer designed to receive both wastewater and surface water from domestic and industrial sources to a treatment works in a single pipe.
Customer Challenge Group (CCG)	An independent body that challenges both our current performance and our engagement with customers on building our future plans.
Cycle 1 and Cycle 2 DWMP	Our current DWMP is referred to as Cycle 1, it covers a planning period of 2025-2050. Our next plan will be published in five years' time and is referred to as our Cycle 2 DWMP, it will cover a planning period of 2030-2055.
Department for Environment, Food and Rural Affairs (Defra)	UK government department responsible for safeguarding the natural environment, food and farming industry, and the rural economy.
Drainage and Wastewater Management Plan (DWMP)	A Drainage and Wastewater Management Plan (DWMP) is 'a long-term strategic plan that sets out how wastewater systems, and the drainage networks that impact them, are to be extended, improved and maintained to ensure they are robust and resilient to future pressures'. The planning period is 25 years, from 2025 to 2050. DWMP is iterated every five years; the first known as 'Cycle 1', published as a final plan in May 2023.
dDWMP	The draft version of the Drainage and Wastewater Management Plan, published in June 2022 <sup>10</sup> .
fDWMP	The final version of the Drainage and Wastewater Management Plan, to be published in May 2023.

<sup>10</sup> <https://www.thameswater.co.uk/about-us/regulation/drainage-and-wastewater-management>

Dry Weather Flow (DWF)	Dry Weather Flow is the average daily flow to a Sewage Treatment Works (STW) during a period without rain.
Environment Agency (EA)	UK government agency whose principal aim is to protect and enhance the environment in England and Wales.
EA Pollution Categories 1 to 3	<p>Category 1 incidents have a serious, extensive or persistent impact on the environment, people or property.</p> <p>Category 2 incidents have a lesser, yet significant, impact.</p> <p>Category 3 incidents have a minor or minimal impact on the environment, people or property with only a limited or localised effect on water quality.</p> <p>Further Ofwat guidance available here: <a href="#">WatCoPerfEPAMethodology v3-Nov-2017-Final.pdf (ofwat.gov.uk)</a></p>
Event Duration Monitoring (EDM)	Event duration monitoring (EDM) measures the frequency and duration of storm discharges to the environment from storm overflows.
External hydraulic sewer flooding	<p>External flooding occurs within the curtilage of a property due to hydraulic sewer overload.</p> <p>Further Ofwat guidance available here: <a href="#">Reporting-guidance-sewer-flooding.pdf (ofwat.gov.uk)</a></p>
Foul sewer	A foul sewer is designed to carry domestic or commercial wastewater to a sewage works for treatment. Typically, it takes wastewater from sources including toilets, baths, showers, kitchen sinks, washing machines and dishwashers from residential and commercial premises.
Grey infrastructure	New sewers, sewer upsizing and attenuation storage to provide additional capacity in the wastewater networks. Also covers new pumping stations, rising mains and/or civil structures at STWs.
Green infrastructure	Sustainable surface water management solutions, including sustainable drainage systems (SuDS), that are designed to mimic naturally draining surfaces. Typically applied to surface water or combined sewerage systems, but can also be applied to land, highway or other forms of surface drainage.
Historic England (HE)	A non-departmental public body of the government whose aim is to protect the historical environment of England by preserving and listing historic buildings, ancient monuments.
Hydraulic overload	Hydraulic overload occurs when a sewer or sewerage system is unable to cope with the receiving flow.
Internal hydraulic sewer flooding	<p>Flooding which enters a building or passes below a suspended floor caused by flow from a sewer.</p> <p>Further Ofwat guidance available here: <a href="#">Reporting-guidance-sewer-flooding.pdf (ofwat.gov.uk)</a></p>
L2 Area (Strategic Planning Area)	An aggregation of level 3 catchments (tactical planning units) into larger level 2 strategic planning areas. The level 2 strategic planning areas allow us to describe strategic drivers for change (relevant at the level 2 strategic planning area scale) as well as facilitating a more strategic level of planning above the detailed catchment assessments.
L3 Catchment (Tactical Planning Unit)	Geographical area in which a wastewater network drains to a single STW. Stakeholders may be specifically associated with this area. Includes for surface water sewerage that may exist which serves the wastewater geographical area but drains to a water course.
Lead Local Flood Authorities (LLFAs)	LLFAs are Risk Management Authorities as defined by the Flood and Water Management Act 2010. They have statutory duties with respect to flood risk

	management, investigating flooding and the compilation of surface water management plans.
Long-Term Delivery Strategy (LTDS)	A requirement by Ofwat on water companies, to ensure that short term expenditure meets long term objectives for customers, communities, and the environment. These will be submitted as part of the Price Review.
Misconnections	Misconnections are where either surface water drainage or foul water is connected to the wrong system e.g., surface water to foul only or foul to surface water systems.
Natural capital accounting	The process of calculating the total stocks and flows of natural resources in a given system, either in terms of monetary value or in physical terms.
Natural England (NE)	A non-departmental public body sponsored by the Department for Environment, Food and Rural Affairs to protect the natural environment in England, helping to protect England’s nature and landscapes.
Non-governmental organisation (NGO)	An organisation that operates independently of any government, typically one whose purpose is to address a social or political issue.
Options Development and Appraisal (ODA)	A method to focus the level of planning effort, i.e., proportionate to the risks identified, with a view to providing a measure of consistency across the industry.
Ofwat	The regulatory body responsible for economic regulation of the privatised water and wastewater industry in England and Wales.
PR24	<p>Every five years, water companies set out their plans for what they’ll deliver and how much they’ll charge customers<sup>11</sup>. Their plans over the next five years should include how they will:</p> <ul style="list-style-type: none"> <li>• Provide a safe and clean water supply</li> <li>• Provide efficient sewerage pumping and treatment services</li> <li>• Control leaks</li> <li>• Install meters</li> <li>• Maintain pipes and sewers</li> <li>• Maintain and improve environmental standards</li> </ul> <p>This process is known as the price review, and the next one will be in 2024, when Ofwat will make its final decisions. We call this PR24.</p>
Risk-Based Catchments Screening (RBCS)	A first-pass screening exercise of catchment vulnerability against 17 different risk indicators. To understand which catchments are low risk catchments and those that are likely to be at risk in the future if not supported by our long-term plan.
Risk Management Authorities (RMAs)	Authorities responsible for Flood Risk as defined in the Flood and Water Management Act 2010. These include, Lead Local Flood Authorities, Highway Authorities, Local Planning Authorities, Natural England and the Environment Agency.
Sewage Treatment Works (STW)	A sewage treatment works receives and treats wastewater to a standard legally agreed with the Environment Agency, before it is released back into the environment.
Specific, Measurable, Achievable, Relevant, and Time-Bound (SMART)	A framework for setting effective targets.
Storm overflow discharges	Storm overflows are used to manage excess flows, which typically occur as a result of heavy rainfall. Excess flow that may otherwise have caused flooding is released through a designated outfall to a water course, land area or alternative drainage system.

<sup>11</sup> <https://www.ccwater.org.uk/priorities/price-review/>

Strategic Environmental Assessment (SEA)	A systematic decision support process to ensure that environmental and other sustainability aspects are considered effectively in policy, plan and programme making.
Surface water sewer	A surface water sewer collects rainwater from domestic and commercial roofs, driveways, patios etc to a local watercourse or suitable surface water drainage system.
Sustainable Drainage systems (SuDS)	Drainage solutions that provide an alternative to the direct channelling of surface water through networks of pipes and sewers to nearby watercourses. SuDS aim to reduce surface water flooding, improve water quality, and enhance the amenity and biodiversity value of the environment. SuDS achieve this by lowering flow rates, increasing water storage capacity and reducing the transport of pollution to the water environment.
Thames Regional Flood and Coastal Committee (TRFCC) area	The TRFCC area was established by the Environment Agency under the Flood and Water Management Act 2010 that brings together members representing the Constituent Authority. Featured TRFCCs are listed here on our DWMP portal: <a href="https://www.arcgis.com">Drainage and Wastewater Management Plan (arcgis.com)</a>
Water Industry National Environmental Programme (WINEP)	The framework under which Defra and the EA require environmental improvements to be delivered by water companies. Guidance is released by regulators, which water companies interpret for their geographical area, and resubmit the outputs back to regulators for endorsement.

## Navigating our DWMP

We've developed a comprehensive document suite to share our final DWMP. This includes five summary documents that contain increasing levels of detail. To help you to navigate around our document suite and to find key DWMP content, we provide a Navigation index below and on our DWMP webpage. The orange cells refer to where key DWMP content can be found across our final document suite.

Navigation index		Protecting the environment and providing a reliable, sustainable wastewater service					Best value and delivery				Working together		DWMP stages and data						
		Storm overflows	Sewer flooding	Level of ambition & pace of delivery	Growth & climate change	Resilience: flooding & power	Groundwater	Environmental assessments	Affordability & bill impact	Best Value	Base vs Enhancement	Solutions & deliverability	Programme alignment	Partnership working	Stakeholder & customer engagement	DWMP stages & process	Level 2 regional summaries	Level 3 regional summaries	Data tables
Summary documents	Customer summary																		
	Non-technical summary																		
	Technical summary																		
	The Plan																		
	Catchment Strategic Plans x13																		
Technical appendices x11	Appendix A - Strategic context																		
	Appendix B - Risk-Based catchment screening																		
	Appendix C - Baseline risk and Vulnerability assessment																		
	Appendix D - Options development and appraisal																		
	Appendix E - Programme appraisal																		
	Appendix F - Stakeholder engagement																		
	Appendix G - Adaptive pathway planning																		
	Appendix H – Customer engagement Part A – Draft DWMP																		
	Appendix I - Risk and uncertainty																		
	Appendix J - DWMP and WRMP alignment																		
Appendix M - Assurance																			
New technical appendices x9	Appendix N - You Said, We Did (YSWD)																		
	Appendix O - What base buys																		
	Appendix P - Response to July 2021 Floods																		
	Appendix Q - Storm overflows																		
	Appendix R - Delivery of SuDS and nature-based solutions																		
	Appendix S - Partnership opportunities and working																		
	Appendix T - Groundwater quality																		
	Appendix U - Resilience																		
	Appendix V – Customer engagement Part B – Consultation Survey Report																		
Environmental assessments	Appendix K - Strategic environmental assessment (SEA)																		
	Appendix L - Habitats regulations assessment (HRA)																		
Portals and data	Customer portal																		
	Practitioner portal																		
	Data tables																		
	Data tables commentary																		

We welcome your views on our DWMP. Please share them with us by emailing:  
[DWMP@thameswater.co.uk](mailto:DWMP@thameswater.co.uk).

*This document reflects our DWMP 2025-2050 as published in May 2023.*

