



Groundwater Impacted System Management Plan

Compton, River Pang

March 2021



Version control

Version	Date	Amendment	Author	Checked	Reviewed
1-d1	March 2021	Draft for EA	DJ	SE	APH
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1-V2	July 2021	Update to introductory text and infiltration potential figures	DJ	APH	JO
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Introduction

This document sets out Thames Water's approach to the management of groundwater infiltration in sewerage systems where the influence of groundwater infiltration is viewed as significant likely leading to the sewerage system, on occasions, to become overwhelmed.

All sewerage systems combined and separate will experience some groundwater infiltration¹ and a nominal allowance in design will be made for this. However, in some catchments the impact of groundwater infiltration can be considerable leading to impacts on service during periods of high groundwater, typically during the winter.

Groundwater can enter the sewerage system through the pipes and manholes, this may occur at a defect (crack, hole, displaced joint) or on a normal joint on the sewer or in the manhole. A key point to note is that where infiltration occurs it is not necessarily an indicator that the sewer is in poor structural state simply that jointing techniques used are not completely watertight.

Ingress of groundwater is not limited to the public system that Thames Water owns and maintains but potentially the private drains, manholes and sewers that connect to our system.

Preventing and reducing the impact of groundwater infiltration is predominately achieved through the lining of sewers and

sealing of manholes. This entails the application of a synthetic liner within the pipe that creates a contiguous membrane for the length of the pipe or possibly section if the source of ingress can be narrowed down. For manholes it will typically entail sealing in a similar manner.

To line all sewers and manholes within most catchments would be prohibitively expensive to do so. Our approach to date has been centered on a 'find and fix' basis which has involved monitoring and investigating the networks in periods of high groundwater to identify sources of ingress and fix as we find them. This approach is constrained for the reason that investigations are typically limited to periods of high groundwater and when high groundwater occurs there are limited windows of time in which investigations can be successfully undertaken before flows either subside or the system is fully surcharged meaning CCTV surveys are not possible². Once sections of sewers have been lined, it will be a case of waiting until high groundwater levels reoccur to assess the effectiveness of the work undertaken, which may not be the subsequent winter but several years later.

It is recognised that the 'find and fix' approach to date lacks a degree of certainty of resolution and for this reason Thames Water in 2020 undertook a different approach for the medium to long- term management of groundwater, which is covered within this

¹ Sewers for Adoption makes an allowance for 10% of peak wastewater flow to allow for unaccounted flows such as groundwater infiltration.

² On occasions it is possible to over-pump between manholes to isolate sections of sewer to survey, this is not always feasible when the flows involved are simply too great to over-pump or the location prohibits this approach.

document under the plan section. These plans require significant investment which Thames Water will seek to secure through the price review process as service enhancement. In the meantime, we will continue to investigate sources of infiltration when it occurs and where feasible, undertake the work through our capital maintenance budgets. We refer to these as 'minor works' opportunities i.e. where we have high degree of certainty of reducing point sources of infiltration and can do so with reasonable costs and time.

The structure of this document has been created with input from the Environment Agency. Sections covered in this document include our 'Outline Plan' with timescales, Mitigation i.e. how we intend to manage the risk until our plan is fully implemented and when we will publish future updates on progress against this plan.

Brief description of the Compton system

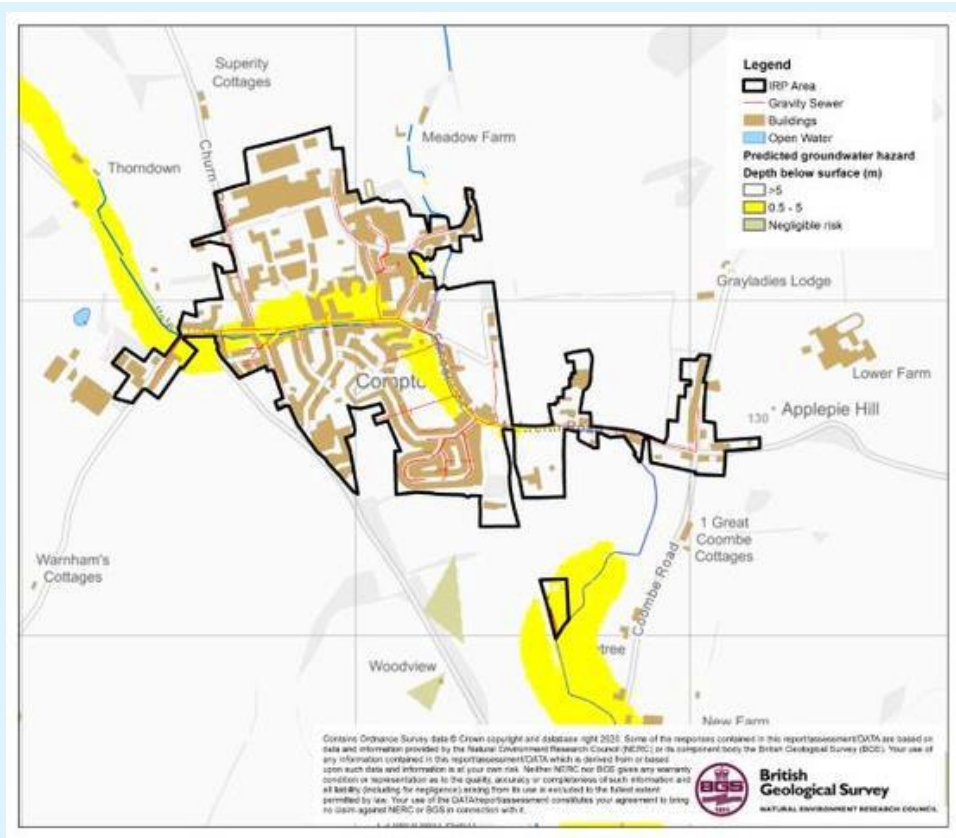


Figure 1.0 – Compton catchment

Compton lies on the River Pang in West Berkshire, England, 12km north of Newbury. Compton serves a population equivalent³ of 1,803 with a predominantly separate sewerage network totaling some 12km in length excluding private drains and sewers. The extent of the catchment is shown in Figure 1.0 above.

Problem characterisation

Groundwater has the potential to enter our sewers when levels are high and a positive head above the soffit of the sewer is created. Significant groundwater ingress can impact sewer capacity and increase the risk of the system becoming overwhelmed.

³ Population equivalent based on unit per capita loading, (PE), in waste-water treatment is the number expressing the ratio of the sum of the pollution load produced during 24 hours by industrial facilities and services to the individual pollution load in household sewage produced by one person in the same time.

In recent years the foul sewerage system in the Compton catchment has become overwhelmed, following prolonged and heavy rainfall and raised groundwater levels. This has resulted in certain properties suffering from sewer flooding and restricted toilet use, as well as highway flooding. The sewerage system is identified on the public sewer records as being a separate foul system, rather than a combined system. It should therefore, in theory, only be accepting foul drainage rather than the combination of foul and surface water, however, there are a limited number of public surface water sewers in the area.

We believe that the foul system has surcharged historically because of a combination of groundwater infiltration, surface water run-off from saturated fields to the west of the village towards East Ilsley, surface water inundation from highways and public spaces, surface water misconnections and river water overflowing from the River Pang and other local watercourses.

'Lift and Look' and CCTV surveys of the sewer network found a number of locations where groundwater is entering our network through cracks and other defects. The CCTV footage that we recorded found groundwater entering our network around the joints in the sewer pipe at several locations in the Compton area.

The impact of the unwanted flows and high flows in Compton may have overloaded the gravity sewers, sewage pumping station and STW. During the winter of 2012/13 and 2013/14 tankers operated 24 hours a day to maintain services to customers.

During the winter months, following prolonged heavy rainfall, we experience increased rates of flow arriving at the

STW which on occasions may impact the performance of the STW.

Our permit conditions for Compton STW state: *"The discharge shall only occur when and only for as long as the flow passed forward is equal to or greater than the overflow setting indicated due to rainfall and/or snow melt"* and *"Offline storm storage must be fully utilised before a discharge occurs. It shall only fill when the flow passed forward is equal to or greater than the overflow setting indicated due to rainfall and/or snow melt and shall be emptied and its contents returned to the continuation flow as soon as reasonably practicable"*

A number of our sewerage systems include for permitted overflows, these structures are there to protect against sewer flooding as a result of rainfall or equipment failure where appropriate. Discharges from these structures should not be impacted by excessive infiltration as detailed by the EA Regulatory Position statement on groundwater impacted sewerage systems.

The root causes of sewer surcharges are numerous and resolution of issues complex, requiring all stakeholders responsible for drainage in the catchment to work together to resolve them.

The Flood and Water Management Act 2010 places a responsibility on Lead Local Flood Authorities (LLFAs), to manage flood risk from surface and groundwater, plus a duty on all Risk Management Authorities (RMAs), to cooperate regarding flood risk. In our role

as an RMA, Thames Water will work with West Berkshire County Council as Lead Local Flood Authority, County Council and planning authority, and the Environment Agency to ensure that a collaborative approach can be developed to address the problems.

Thames Water also has a statutory obligation to comply with environmental legislation. The Water Framework Directive establishes a strategic approach to managing the water environment, which the Environment Agency achieves through River Basin Management Plans and setting environmental objectives for groundwater and surface water. The environment is also protected from adverse effects of discharges of urban wastewater through the Urban Wastewater Treatment Directive, which requires us to improve and extend the sewerage system according to section 94 of the Water Industry Act (1991).

Anticipated unavoidable discharges

Within recent years there have been unavoidable sewage escapes in the network as a result of surcharging manholes.

We anticipate that this situation may continue until such time we are able to implement a long-term solution.

No mitigation in the form of temporary overflows has been undertaken in the system.

General outline plan & timescale

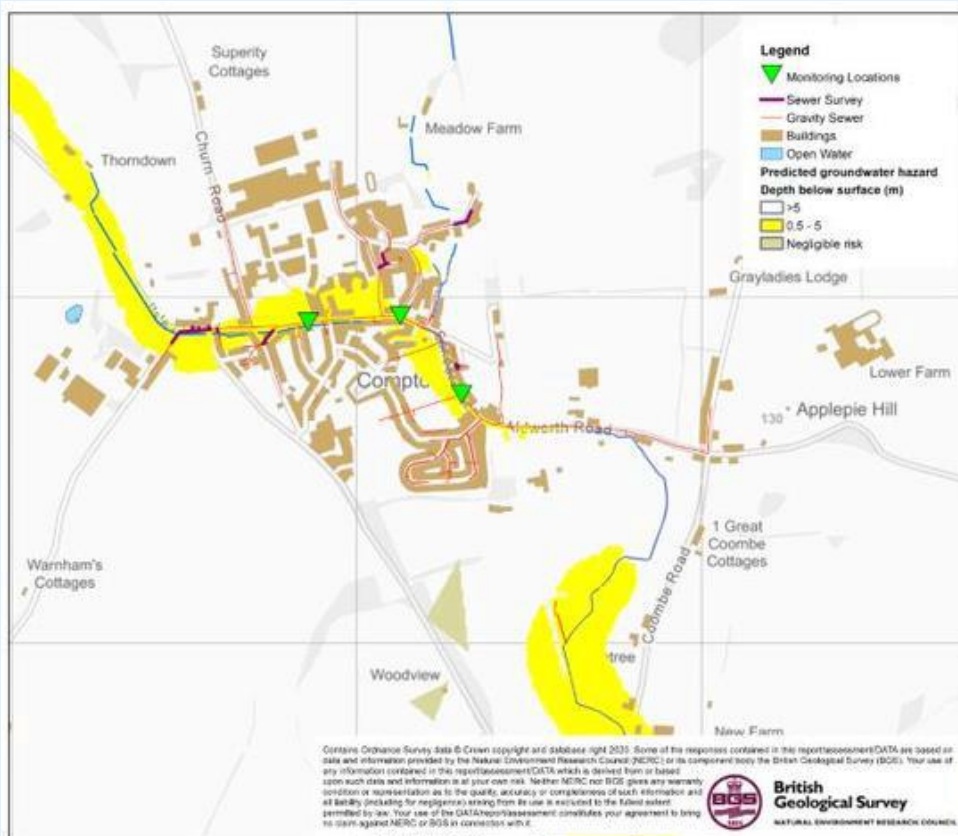


Figure 2.0 – Compton monitoring and infiltration zones

Key to bringing the impact of groundwater infiltration under control is an enhanced monitoring regime. We have identified and have installed several telemetered depth monitor locations around the Compton system – see Figure 2.0.

Complementing the flow [at the treatment works] and depth measurement [in the sewer network] we will use pumping station run time data, rainfall data, river level data, and groundwater level data to create a full picture of movement and source of flows around the catchment.

Zones of Groundwater Risk

We engaged with JBA Consulting to develop plans for Compton that identify zones of groundwater risk, see Figure 2.0. These zones are modelled areas where the groundwater has been determined to be above the sewer and hence pose a potential risk for groundwater ingress.

The sewer depth monitors referred to earlier have been sited in and around these zones to verify and calibrate the risk in each of the zones.

If following the proposal to the sealing in part or wholly⁴ of the high risk zones, should it be required, the system is found to be still experiencing excessive infiltration we would then look to potentially seal 'private' laterals and/or drains along with starting to seal the medium to low risk zones.

This document sets out an unconstrained approach to resolving the impact of groundwater infiltration within the system.

Investment to address infiltration will be assessed and prioritised against other drivers e.g. STW upgrades, both in the catchment and across the region at each price review.

With this plan we remain committed to minimising the impact of groundwater on the sewerage system in Compton.

Our general medium to long term plan is therefore to apply a hierarchy to sealing the sewer as follows:

Activity	When	Description
Model Zones	2020/21	JBA have been engaged to undertake modelling activities to identify the areas to be targeted for sealing in the 56 systems in the Thames Water region identified as being impacted by infiltration.
Install monitors	2020-2023	Monitors have been installed in the zones to help calibrate and validate the zones. Each year completeness / coverage monitors will be reviewed and added to / or modified, as necessary.
Calibrate zones	Refined each year	Following each winter, we intend to review the data from the monitors and if necessary, redefine the zones.
Look & Lift	Each winter	The look & lift surveys have two purposes, firstly to compliment the monitoring and secondly to identify 'quick fixes' that we would address through our normal capital maintenance.
CCTV	2020-2023	Required to confirm sewer condition and provide information to assist with costing any sewer lining.

⁴ Decisions regarding the extent of sealing will be based on outcomes of works undertaken to date, result of monitoring and successful submission of our plans for investment.

Activity	When	Description
Minor works	2020-2023	As mentioned, if we detect minor works being required, we would look to resolve these as and when we find them.
PR24	2023/24	Ideally through monitoring and on-going investigations work towards managing the infiltration risk, in AMP7, will be successful. However, in the absence of evidence justifying the need not to undertake sealing of the high-risk zone this is to be included as part of PR24 investment plan. This work will be subject to Cost Benefit Analysis and Best Technical Knowledge Not Entailing Excessive Cost (BTKNEEC) assessments.
High risk zone sealing	2025-30	Sealing of high-risk zone undertaken subject to need being demonstrated.

Compton Infiltration Management Plan

As detailed above the impact of infiltration is experienced in the network and at the STW.

Our approach to the resolution of infiltration impacting the Compton sewerage system is outlined below.

High level approach statement

For Compton our approach to tackling infiltration will be undertaken as follows:

1. We will investigate the network with a view to identifying sources of ingress of infiltration that are cost effective⁵ to address. To investigate the network, we have:
 - Undertaken a desktop analysis to determine infiltration high to low risk zones (October 2020);
 - Installed additional monitoring to back up the analysis and to aid focusing of locations for identification of infiltration (2020 to 2023). Each year we will assess the completeness of monitoring and if required add to or modify the current locations.
 - Undertaken sample CCTV in the high to low risk zones to assess the general asset health of the sewers and manholes (ongoing).

We will also review results of Winter 2019/ 20 and 2020/21 with historic data to build up evidence to support interventions in the network (Summer/Autumn 2021).

2. Where interventions can be undertaken as part of normal sewer maintenance activities these will be communicated and progressed.

3. If significant investment is identified as being required, then this will need to be considered in terms of relative need compared to other systems being investigated for infiltration reduction. However, where viable opportunities are identified these will be included in our AMP9 (2030-35) programme of investment. Significant investment needs may need to be included in our future investment cycles.

Investigations

As mentioned above, JBA Consulting have been supporting by undertaking an exercise involving assessing groundwater elevation data to determine which areas of the network are potentially below the groundwater table during high groundwater periods.

Site investigations, undertaken by Dene- Tech and our Customer Field Services (Thames Water Operations) have included 'look & lift' surveys, CCTV and where necessary dye tracing to confirm connectivity.

A table of the work undertaken is included in the appendix to this report.

⁵ Assessment of cost effectiveness is based on assessment of the ratio of the cost of a solution to the monetised benefit gained from implementing the solution i.e. reduction in flood/pollution risk and/or reduced operating costs.

Monitoring

Sewer Depth Monitors have been installed in the catchment in 2020/2021 (see Figure 2.0). These devices are telemetered and provide real time data on the level of flow in the sewer.

The purpose of these units is to act as alerts for high groundwater impact in the sewer, calibration of the zones of infiltration risk and to demonstrate benefit gained from work undertaken to reduce infiltration.

These units will also provide evidence in the future of further need to manage the impact of infiltration.

Mitigation

On occasions to avoid flooding of properties or to manage the risk of damage to the environment we may undertake tankering from (manholes) points on the network, make use of pumps to manage flows or deploy settlement tanks to part treat sewage before release to the environment.

With regard to Compton we will continue to tanker where required but do not envisage needing to undertake further mitigation work within the network at this stage.

Updates

Work on the Groundwater infiltration management plan will continue, and we will aim to provide updates annually by the end of October each year.

Appendix

Groundwater infiltration potential analysis

The table below presents a summary of the JBA groundwater infiltration analysis which identifies the sewers and manholes which are likely to be vulnerable to groundwater infiltration.

Sewer Length by Groundwater Infiltration Risk Zones

Risk category	Description	Length (km)	Percentage
High	Predicted groundwater extreme >1m above pipe invert	-	-
Medium	Predicted groundwater extreme 0-1m above pipe invert	-	-
Low	Predicted groundwater extreme 0-1m below pipe invert	0.21	3.7
Very Low	Predicted groundwater extreme >1m below pipe invert	5.41	96.3
Total		5.62 ⁶	100.0

In addition, the table below presents the surface water flood risk classification for manholes within the catchment

Manholes by Surface Water Inundation Risk Category

Risk category	Description	Number	Percentage
High	Inundation risk in 3.3% AEP fluvial or pluvial event	54	28.3
Medium	Inundation risk in 1% AEP fluvial or pluvial event	12	6.3
Low	Inundation risk in 0.1% AEP fluvial or pluvial event	15	7.9
Very Low	All other manholes	110	57.5
Total		191	100.0

⁶Total of sewer length is for length of mapped sewers only and will not include unmapped S105a transferred sewers in all cases.

Investigations & remedial work undertaken since 2019/20 and future plans

The three tables summarise the findings of the survey and implementation work identified in the 2019/20 period. The final table summarises our current known plans for remediating groundwater infiltration issues. Surveys have been completed for Winter 2020/21.

2020 Survey Statistics

Elements		Units	Value	Comment
Planned Survey		m	2581	Survey was planned for a significant part of the system. It was possible to complete 86% of the survey (see Figure 2)
Survey Completed		m	2212	
		%	86	
		Lengths (No.)	80	
Clear Flow Observed		m	1256	57% of the sewer network surveyed had evidence of groundwater infiltration
		%	57	
Sewer Infiltration Locations Identified	Infiltration Gushing	No.	2	73 groundwater infiltration locations were identified in the sewers. Of those 9 were identified as Priority 1 and therefore should be the focus of repair as soon as possible.
	Infiltration Gushing at Joint		7	
	Infiltration Running		3	
	Infiltration Running at joint		37	
	Infiltration Dripping		2	
	Infiltration Dripping at joint		4	
	Infiltration Seeping		1	
	Infiltration Seeping at joint		17	

Elements		Units	Value	Comment
Manhole Infiltration Locations Identified	Infiltration around pipe	No.	4	65 groundwater infiltration locations were identified at manhole locations. Of those 16 were identified as Priority 1 and therefore should be the focus of repair as soon as possible.
	Infiltration through benching		1	
	Infiltration through chamber wall		5	
	Gushing		16	
	Running		30	
	Dripping		6	
	Seeping		1	
	Grand Total		65	
	Monitoring Locations Active		No.	
Details of other Surveys				N/A

2020 Implementation Works

Activities	Value	Comment
Sewer Lining Length (m)	0	The focus of this period was investigations to identify the location of implementation works required.
Infiltration Points Targeted (no.)	0	
Manhole Sealing (no.)	0	

Future Works

These are subject to feasibility and contractor review as the classification of gushers and runners is a relatively subjective analysis

	Priority 2021	Known follow On Work
Survey	See main text	-
Sewer Lining	5 Priority 1 locations identified	64 running /dripping/seeping locations identified. Locations identified in future surveys
Manhole Sealing – Infiltration Ingress	16 Priority 1 locations identified	49 other locations identified. Locations identified in future surveys
Manhole Sealing – Pluvial and Fluvial Ingress	0 Priority 1 locations identified	Plan to be developed based on at risk manholes identified in JBA analysis
Sewage Treatment Works Upgrade	N/a	

Glossary of terms

AEP – Annual Exceedance Potential

AMP – Asset Management Plan

CCTV – Closed Circuit Television

EA - Environment Agency

IRP – Infiltration Reduction Plans

MH – Manhole

STW – Sewage Treatment Works

WINEP – Water Industry National Environment Programme

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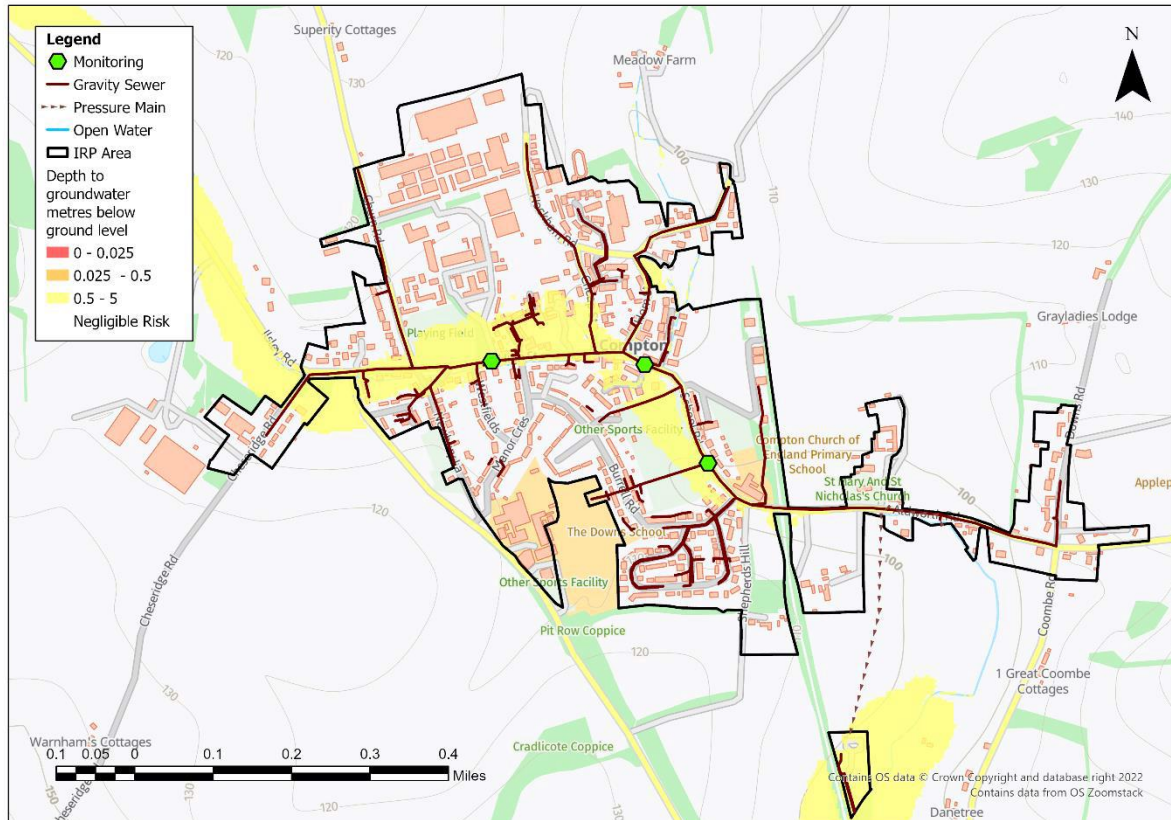
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Overview

This addendum to the Compton Groundwater Impacted System Management Plan 2021 (GISMP) provides an update on performance/work undertaken in the Hydrological Year October 2021 to September 2022. The key points covered include:

- Hydrological conditions
- How the sewerage system has performed over this period
- Mitigation / remedial measures progressed over the last year and being planned
- Summary and plan for 2022/23

Figure 1 – Compton Monitoring Plan



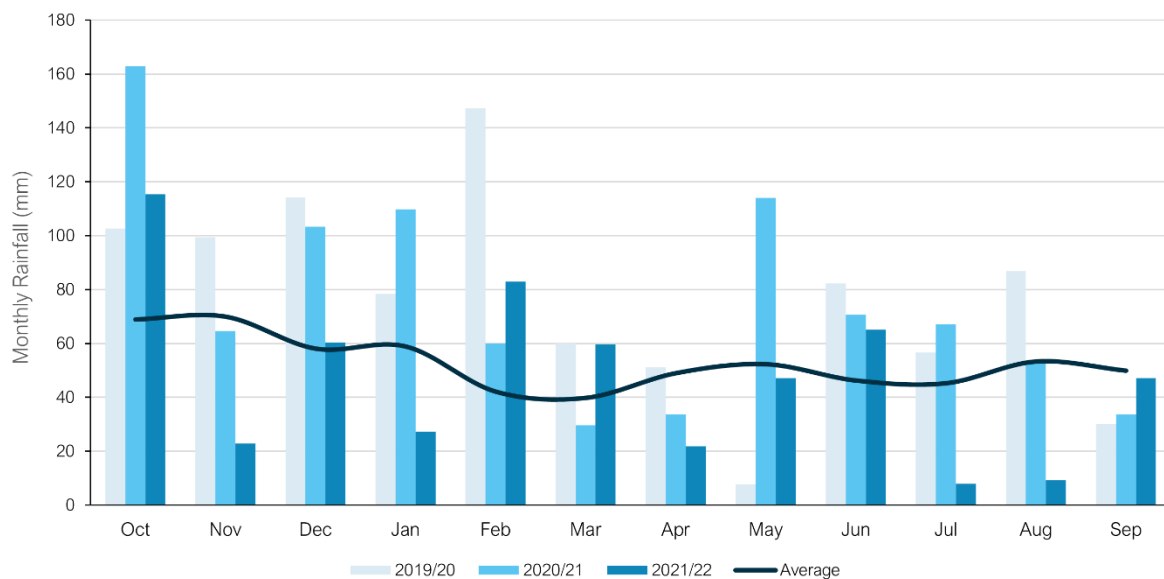
Hydrological Review – 2021-2022

This section summarises the hydrological conditions within the Compton catchment within the period under investigation and provides comparison against previous year's performance to put the annual performance into context. The hydrological review has been undertaken based on the Hydrological Year which runs October 1st to September 30th.

Catchment Rainfall

Representative Radar rainfall has been used to generate monthly data at catchment level for comparison with average data generated by local Met Office Weather Station Records. Figure 2 presents the comparison of this data for the last three hydrological years to support longer term trends within the local system.

Figure 2 – Monthly Rainfall Performance



Average Values taken from Met Office Weather Station at Benson based on the period 1991-2020

The total rainfall for the 2021/22 hydrological year is 9% below the annual average total. Total rainfall values are presented in Table 3 below.

Table 3 –Total Rainfall Based on Hydrological Year

Average (mm)	2019/20 (mm)	2020/21 (mm)	2021/22 (mm)
634	917	902	576

Groundwater / Local River Level

The Compton catchment is situated in the Berkshire Downs water resources area. It sits in the Seaford Chalk formation of sedimentary bedrock. The Compton catchment and its subsequent base geology is part of a designated principal aquifer within the UK.

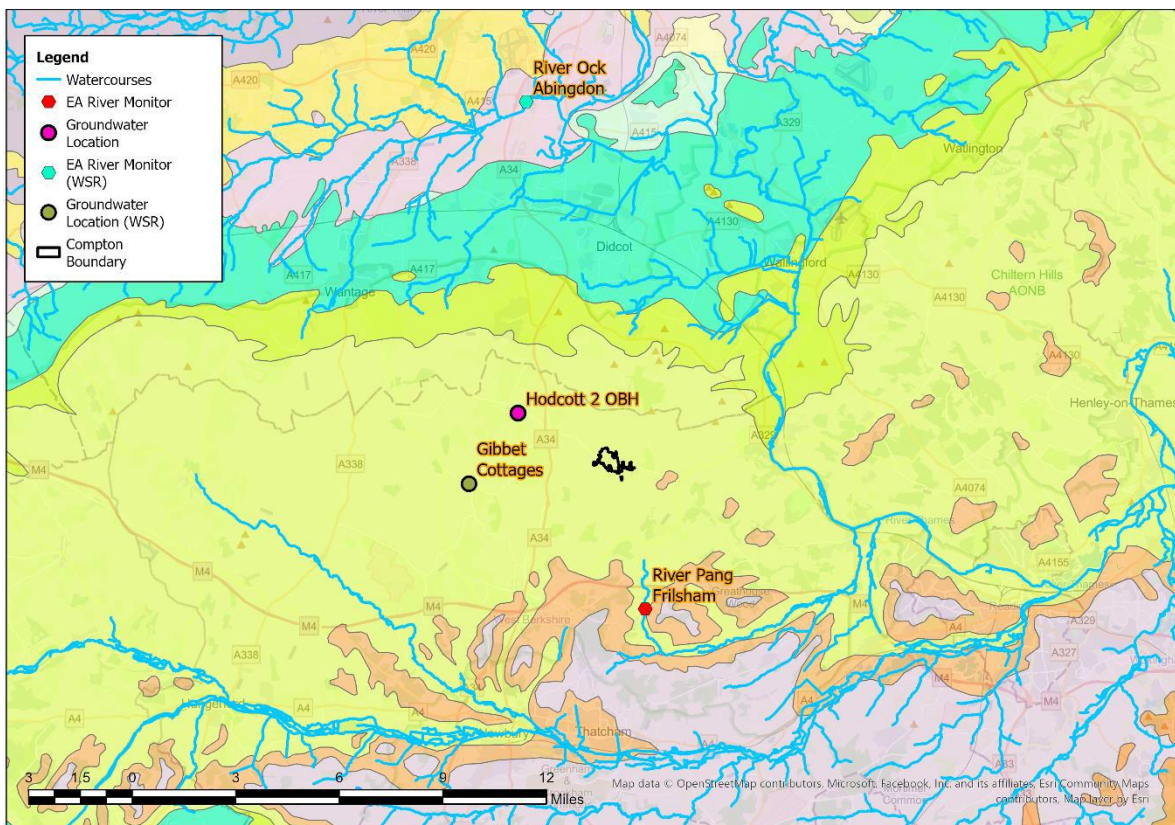
The Environment Agency has gauging stations on local watercourses measuring stage and observation boreholes measuring groundwater levels locally to the catchment which can be used to provide indicative local groundwater performance.

From previous investigations we have identified the following sites are good indicators of groundwater levels within the catchment.

- Hodcott 2 OBH.
- River Pang, Frilsham.

These sites are illustrated in the figure below, alongside the closest groundwater reference station and closest gauging station from the Water Situation Report.

Figure 4 – Local Monitoring Stations



The following figures represent the last three hydrological years of level information at the indicator sites to build a picture of the relative conditions prevalent in the current year. It is presented against both the daily total rainfall values for the catchment and a rolling 15 day total rainfall.

Figure 5A – Hodcott 2 OBH

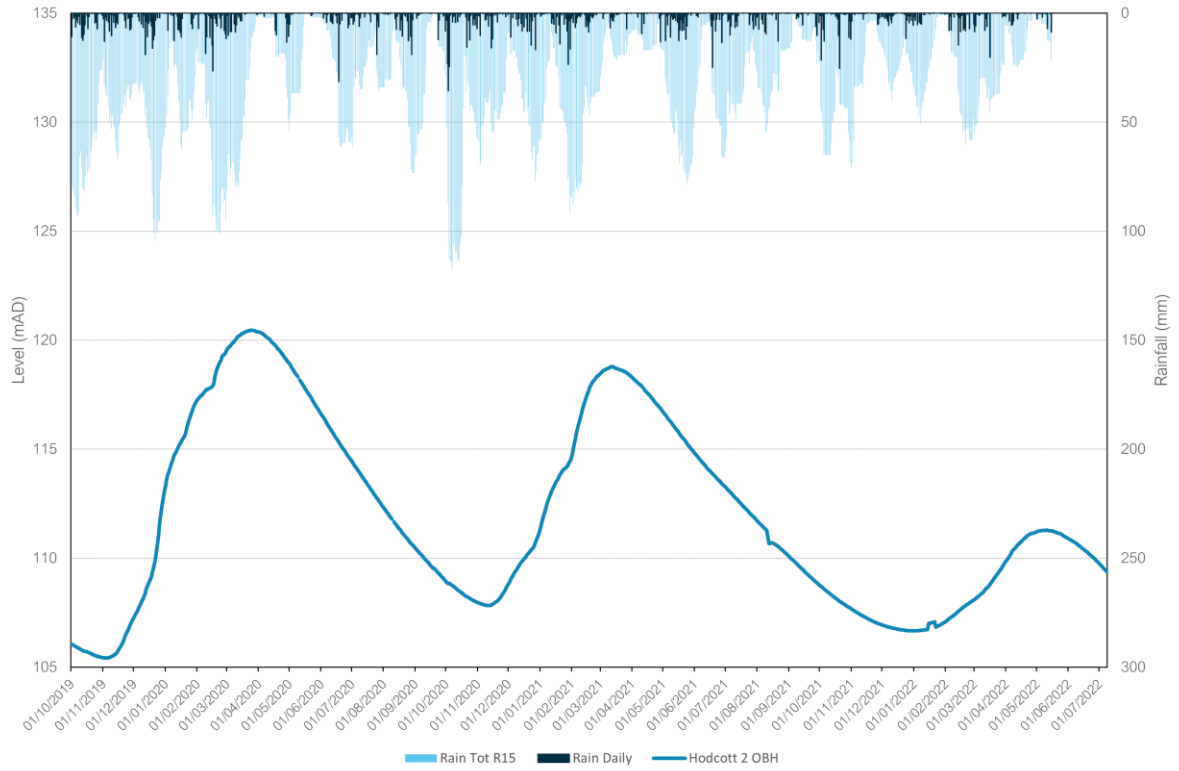
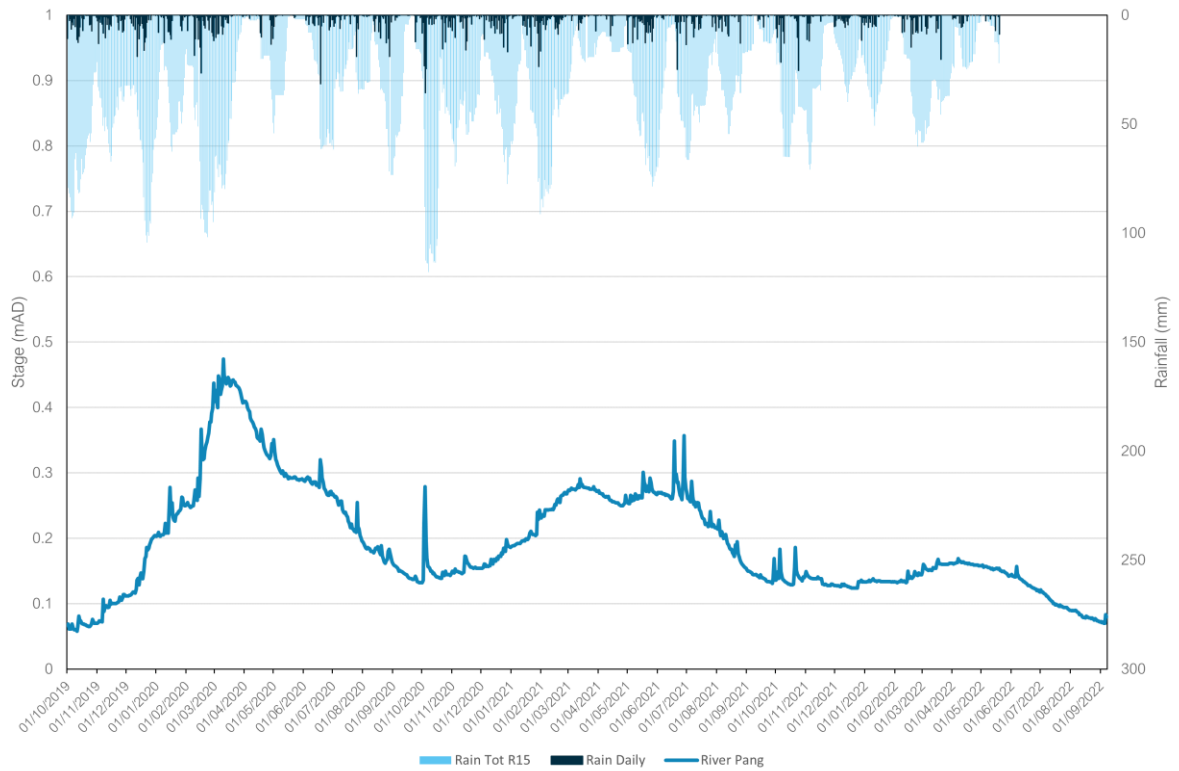
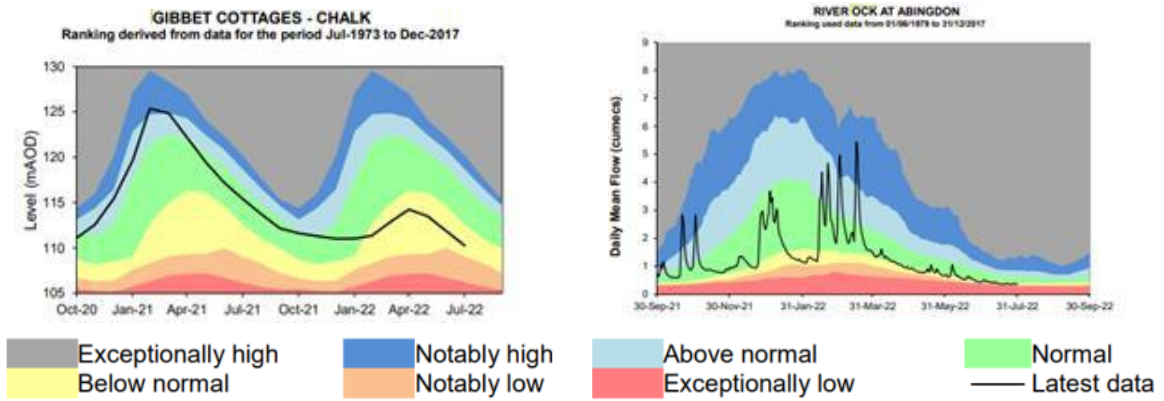


Figure 5B – River Pang, Frilsham



In addition to these specific stations, the wider groundwater context is illustrated in the Water Situation Report for Berkshire Downs . The nearest groundwater reference station is Gibbet Cottages. This site shows significantly lower overall groundwater than the previous year. This can be seen in the figure below alongside the river indicator Abingdon on the River Ock.

Figure 6 – Water Situation Report



Extract from - [Water Situation Report \(publishing.service.gov.uk\)](https://publishing.service.gov.uk)

Network Performance

Within the Compton catchment there is one site detailed within the Environment Agency Consents Database which has an Event Duration Monitor (EDM) fitted.

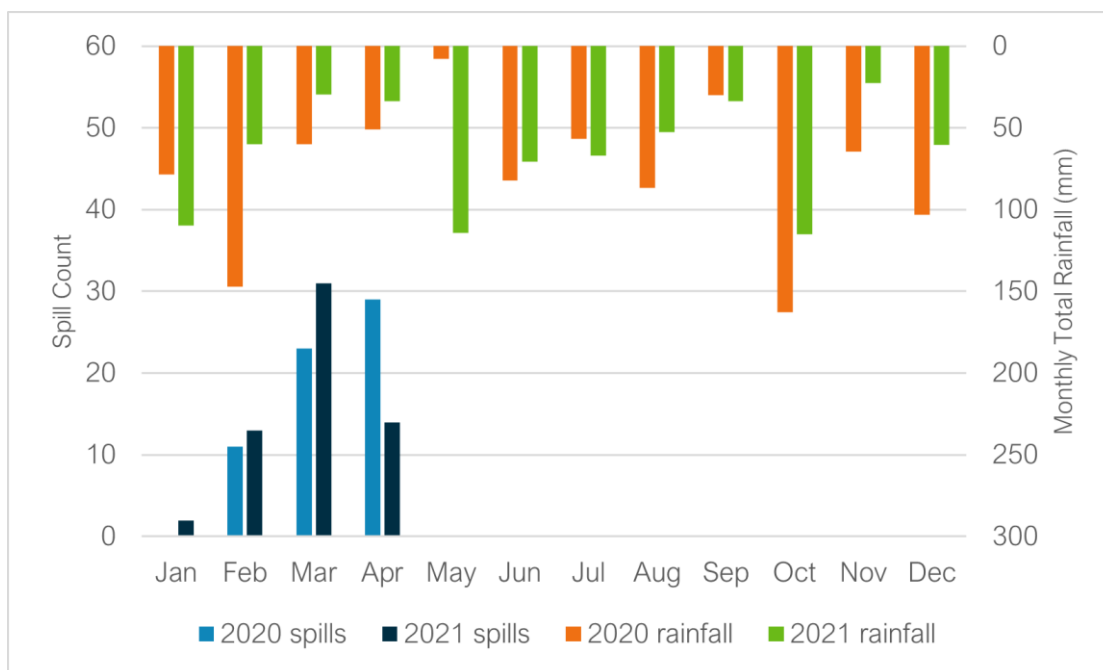
Table 7 below details the last 2 years performance of overflows within the catchment.

Table 7 – Event Duration Monitoring

Overflow	2020		2021	
	Spills	Duration (hours)	Spills	Duration (hours)
Compton STW	63	1111.44	60	1110.21

A critical part of the assessment of EDM performance and its relation to groundwater inundation is to review the month-on-month spill performance, against previous years and the monthly total rainfall values to give context to the performance. Note a spill frequency of 63 is stated for 2020, which is lower than the published spill count of 74. The data has been revalidated/ corrected and the revised spill count of 63 will be included in the re-submission to the EA. Figure 8 below presents the EDM performance trend and rainfall for recent years.

Figure 8 – EDM Monthly Performance



The trend in spill performance across the two recorded years does show variation in spills, with an overall focus on spills during the winter and early spring months. The data suggests a relationship between winter rainfall, elevated groundwater levels and spill frequency. Despite variation within 'in month' winter rainfall and spills, there is a suggestion that cumulative rainfall figures also influence performance, suggesting both short and longer-term influence of groundwater.

Investigations & Interventions

This section details the activities that have been undertaken within the catchment within the Hydrological Year 2021-22.

Monitor Installations

The sewer depth monitor (SDM) programme supports long term groundwater understanding within GISMP catchments. Currently, there are a total of 3 monitors installed within the Compton catchment. There are currently no further monitor installs planned.

The data from these will be cross-referenced with other long-term records (where available) within the catchment.

Remediation Works Undertaken this Hydrological Year

Table 9 below provides a summary of the investigations and remediation works undertaken or planned within the Compton catchment in the 2021-22 Hydrological Year.

Table 9 – Works Undertaken in the 2021/22 Hydrological Year

Investigation/ remediation type	Number/ length undertaken
CCTV survey	N/A
Look and lift survey	N/A
Sewer lining	425 metres completed
Patch lining	N/A
Manhole sealing	18 manholes completed, further 18 planned by end of November 2022.
Manhole sealing plates	N/A
Manhole covers and frames replaced	N/A

Although seasonal trends in groundwater in the 2021/2022 hydrological year were low in comparison to previous years, appropriate interventions and remedial actions on the sewer system were undertaken where groundwater levels allowed.

Summary

Rainfall in the Compton catchment over the 2021/22 hydrological year has been below average, with groundwater levels in the aquifer beneath Compton not reaching the levels seen in previous years which triggered groundwater ingress into the sewerage network and elevated flow/depth readings at monitoring sites.

Lift and look and CCTV surveys will continue throughout the remaining wet winter periods with the aim of finding further priority locations for remediation and investigating/justifying the need for future larger scale lining as part of our Price Review (PR) process if required.

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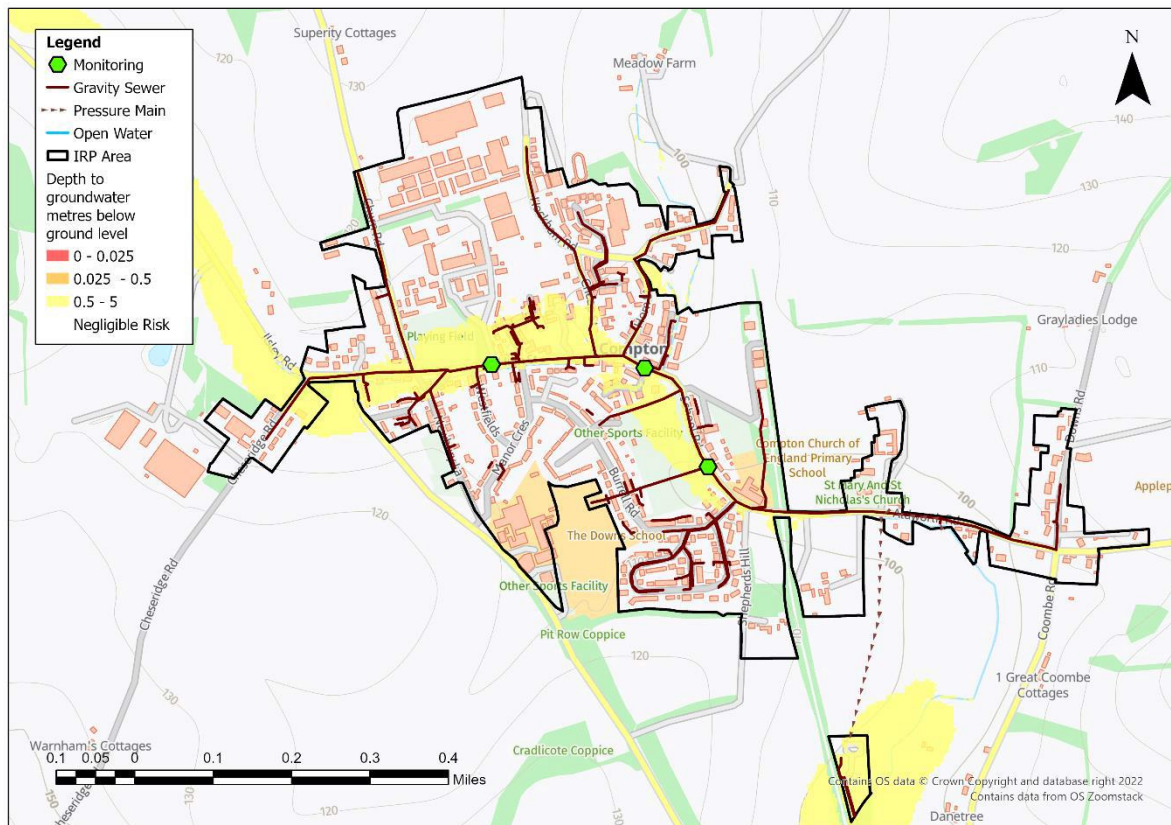
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- Performance of the sewerage system
- Mitigation / remedial measures progressed over the last year and being planned
- Summary and plan for 2023/24

Figure 1 – Compton Monitoring Plan



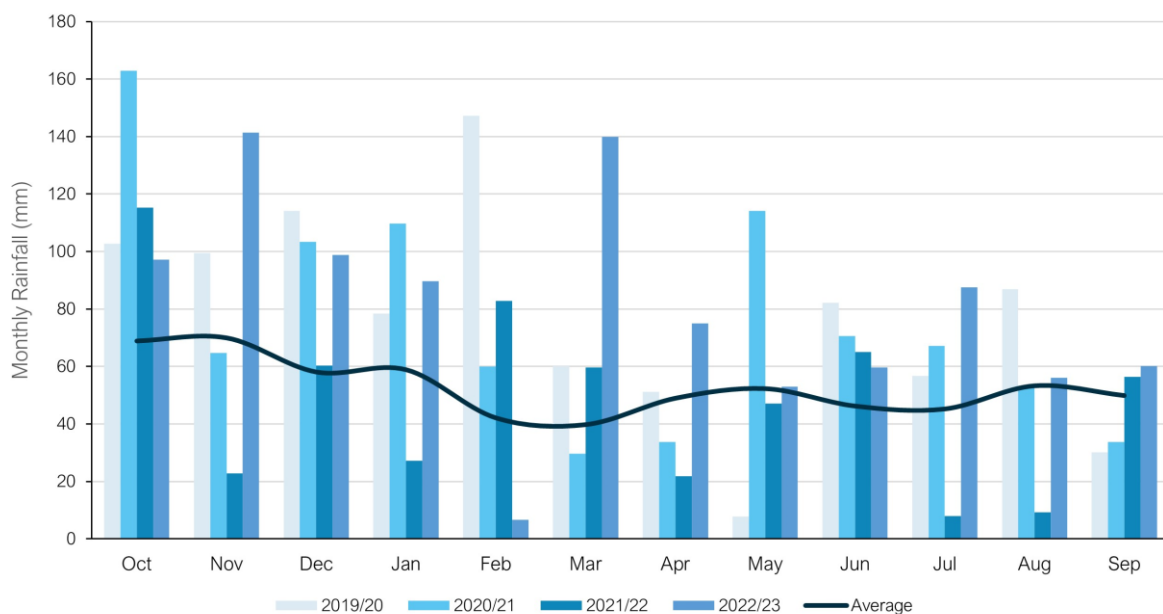
Hydrological Review – 2022-2023

This section summarises the hydrological conditions within the Compton catchment within the period under investigation and provides comparison against previous year’s performance to put the annual performance into context. The hydrological review has been undertaken based on the Hydrological Year which runs October 1st to September 30th.

Catchment Rainfall

Representative Radar rainfall has been used to generate monthly data at catchment level for comparison with average data generated by local Met Office Weather Station Records. Figure 2 presents the comparison of this data for the last four hydrological years to support longer term trends within the local system.

Figure 2 – Monthly Rainfall Performance



Average Values taken from Met Office Weather Station at Benson based on the period 1991-2020

The total rainfall for the 2022/23 hydrological year is 52% above the annual average total. Total rainfall values are presented in Table 3 below.

Table 3 –Total Rainfall Based on Hydrological Year

Average (mm)	2019/20 (mm)	2020/21 (mm)	2021/22 (mm)	2022/23 (mm)
634	917	902	576	965

Figure 5A – Hodcott 2 OBH

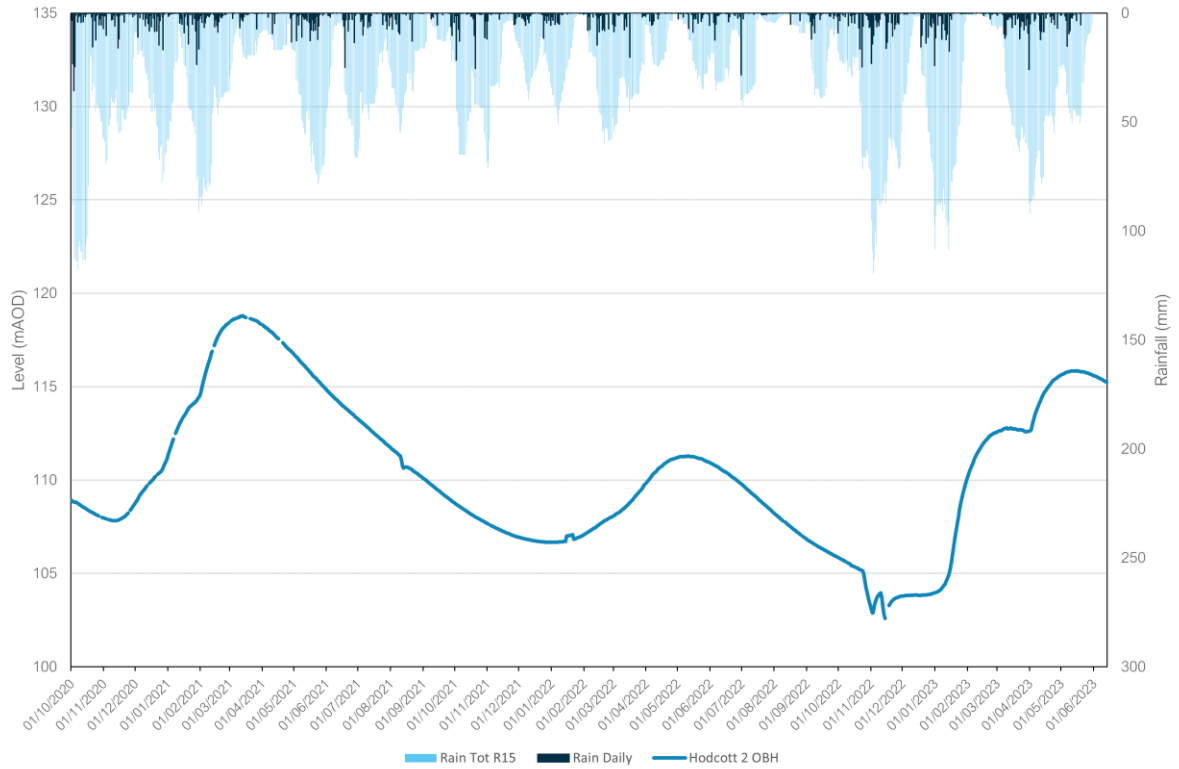
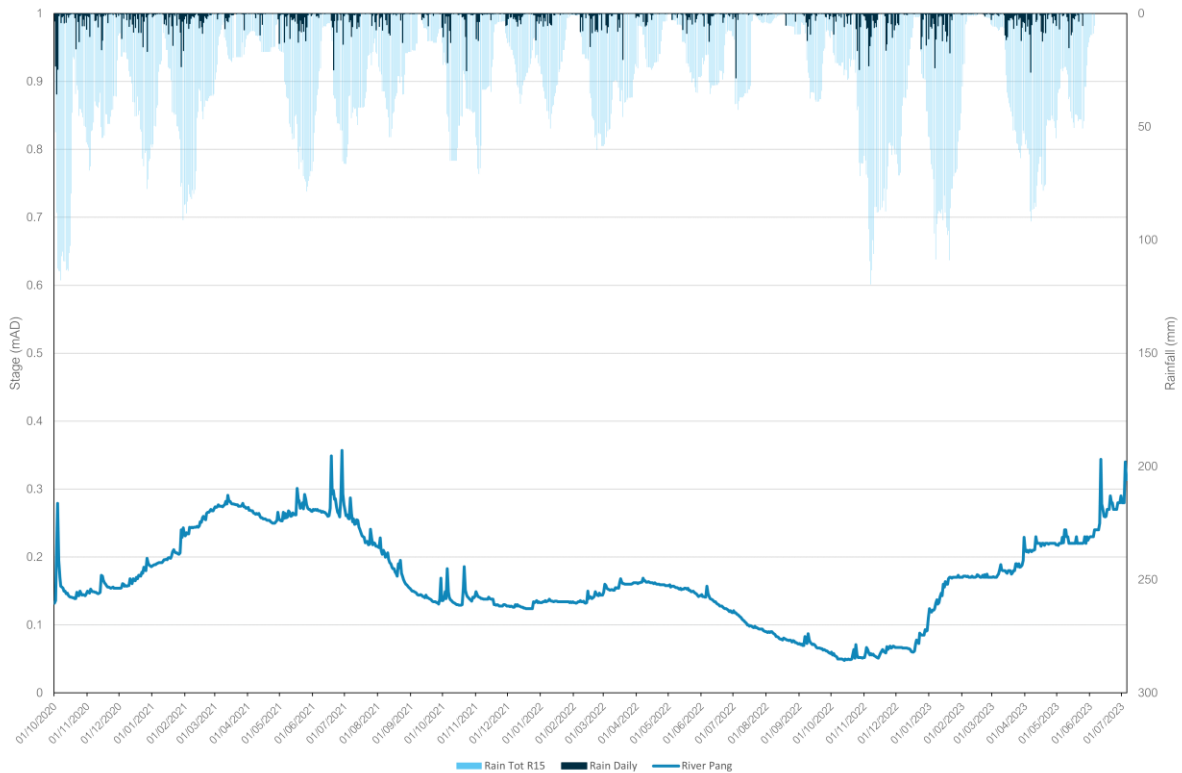
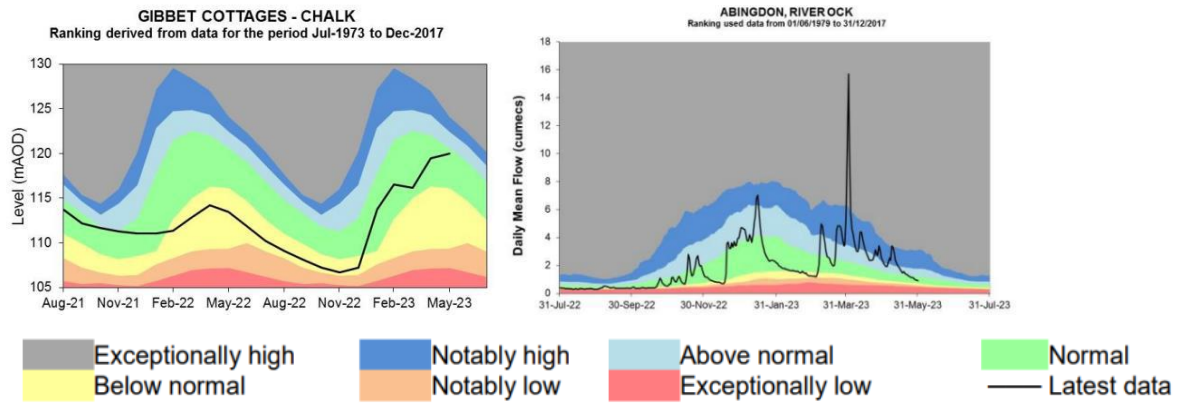


Figure 5B – River Panq, Frilsham



In addition to these specific stations, the wider groundwater context is illustrated in the Water Situation Report for Berkshire Downs. The nearest groundwater reference station is Gibbet Cottages. This site shows groundwater levels were consistently below normal in 2022, before rising towards the end of the year. Groundwater levels have been within the normal range during 2023 and have generally been higher this hydrological year than within the previous hydrological year. This can be seen in the figure below alongside the river indicator Abingdon on the River Ock.

Figure 6 – Water Situation Report



Extract from - [Water Situation Report \(publishing.service.gov.uk\)](https://publishing.service.gov.uk)

Network Performance

Within the Compton catchment there is one site detailed within the Environment Agency Consents Database which has an Event Duration Monitor (EDM) fitted.

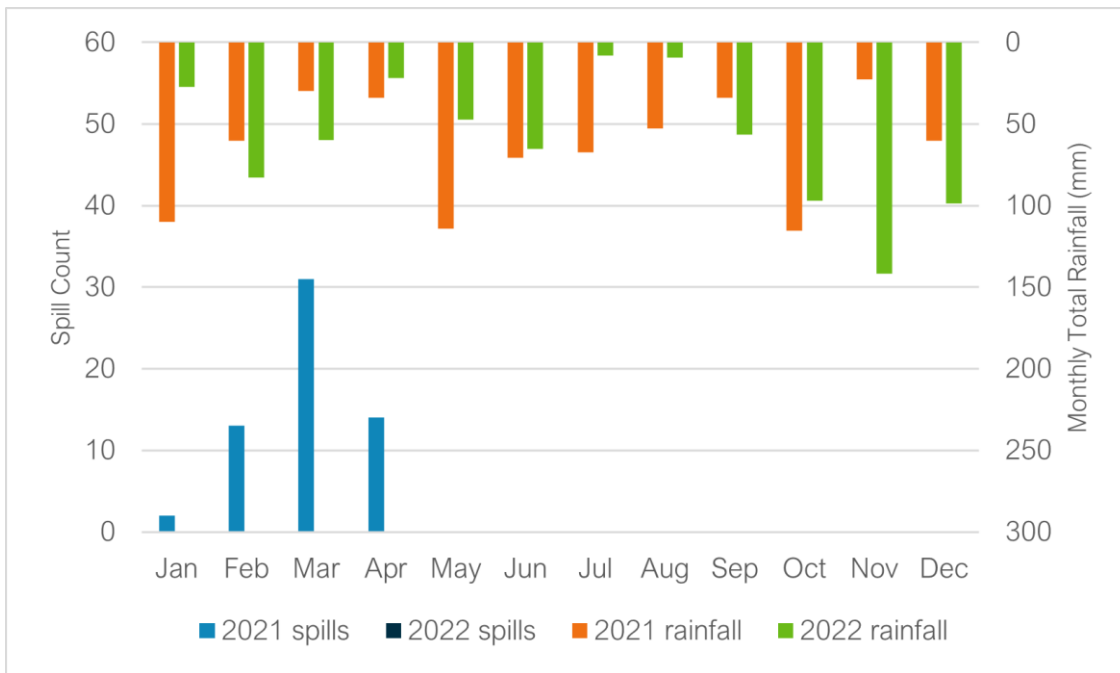
Table 7 below details the last 2 years performance of overflows within the catchment.

Table 7 – Event Duration Monitoring

Overflow	2021		2022	
	Spills	Duration (hours)	Spills	Duration (hours)
Compton STW	60	1110.21	0	0

A critical part of the assessment of EDM performance and its relation to groundwater infiltration is to review the month-on-month spill performance, against previous years and the monthly total rainfall values to give context to the performance. Figure 8 below presents the EDM performance trend and rainfall for recent years.

Figure 8 – EDM Monthly Performance



The trend in spill performance across the two recorded years does show variation in spills, with a focus on spills during the winter and early spring months. The data suggests a wider relationship between winter rainfall, elevated groundwater levels and spill frequency. Despite higher rainfall totals in February and March 2022 than in February and March 2021, no spills were recorded at Compton STW in 2022, however a significant number of spills were recorded February – April 2021. The indicator sites shown in Figure 5, suggest groundwater levels in the catchment were significantly higher February – April 2021, compared to the same period in 2022, with Figure 6 showing groundwater levels within the below normal range during 2022.

Investigations & Interventions

This section details the activities that have been undertaken within the catchment within the Hydrological Year 2022-23.

Monitor Installations

The sewer depth monitor (SDM) programme supports long term groundwater understanding within GISMP catchments. Currently, there are a total of 3 monitors installed within the Compton catchment. There are currently no further monitor installs planned.

The data from these will be cross-referenced with other long-term records (where available) within the catchment.

Remediation Works Undertaken this Hydrological Year

Table 9 below provides a summary of the investigations and remediation works undertaken or planned within the Compton catchment in the 2022-23 Hydrological Year, as well as works undertaken in the 2021-22 Hydrological Year.

Table 9 – Works Undertaken in the 2022/23 Hydrological Year & in the 2021/22 Hydrological Year

Investigation/ remediation type	Number/ length undertaken 2021/22	Number/ length undertaken 2022/23
CCTV survey	N/A	N/A
Look and lift survey	N/A	N/A
Sewer lining	425 metres	N/A
Patch lining	N/A	N/A
Manhole sealing	18 manholes	18 manholes*
Manhole sealing plates	N/A	N/A
Manhole covers and frames replaced	N/A	N/A

*Detailed as planned in last year's Addendum Report and completed this hydrological year.

In addition to the interventions detailed above, manhole 'running' locations (previously identified locations of groundwater infiltration into the network), will be passed to Ops, to allow them to raise these locations on their risk register and apply for funding for remediation works to be carried out (note: this will be subject to approval).

An upgrade is also planned for Compton STW. This will improve its ability to treat the volumes of incoming sewage, reducing the need for untreated discharges to the environment. The scheme is due to be completed in 2025.

Summary

Indicator site data suggests groundwater levels in the Compton catchment were generally lower in 2022 than in 2021, with an absence of any recorded spills at Compton STW during 2022 strongly indicative of the role of groundwater infiltration on spills in the catchment. This hydrological year (October 2022 – September 2023), groundwater levels have generally been higher than the previous hydrological year, and EDM spill data for 2023 will be analysed once available to continue to examine the relationship between groundwater levels and overflow spills in the catchment.

Lift and look and CCTV surveys will be undertaken in remaining wet winter periods if conditions allow. The aim of this is to find further priority locations for remediation and investigating/justifying the need for future larger scale lining as part of our Price Review (PR) process if required.

Addendum - Annual Update 2024

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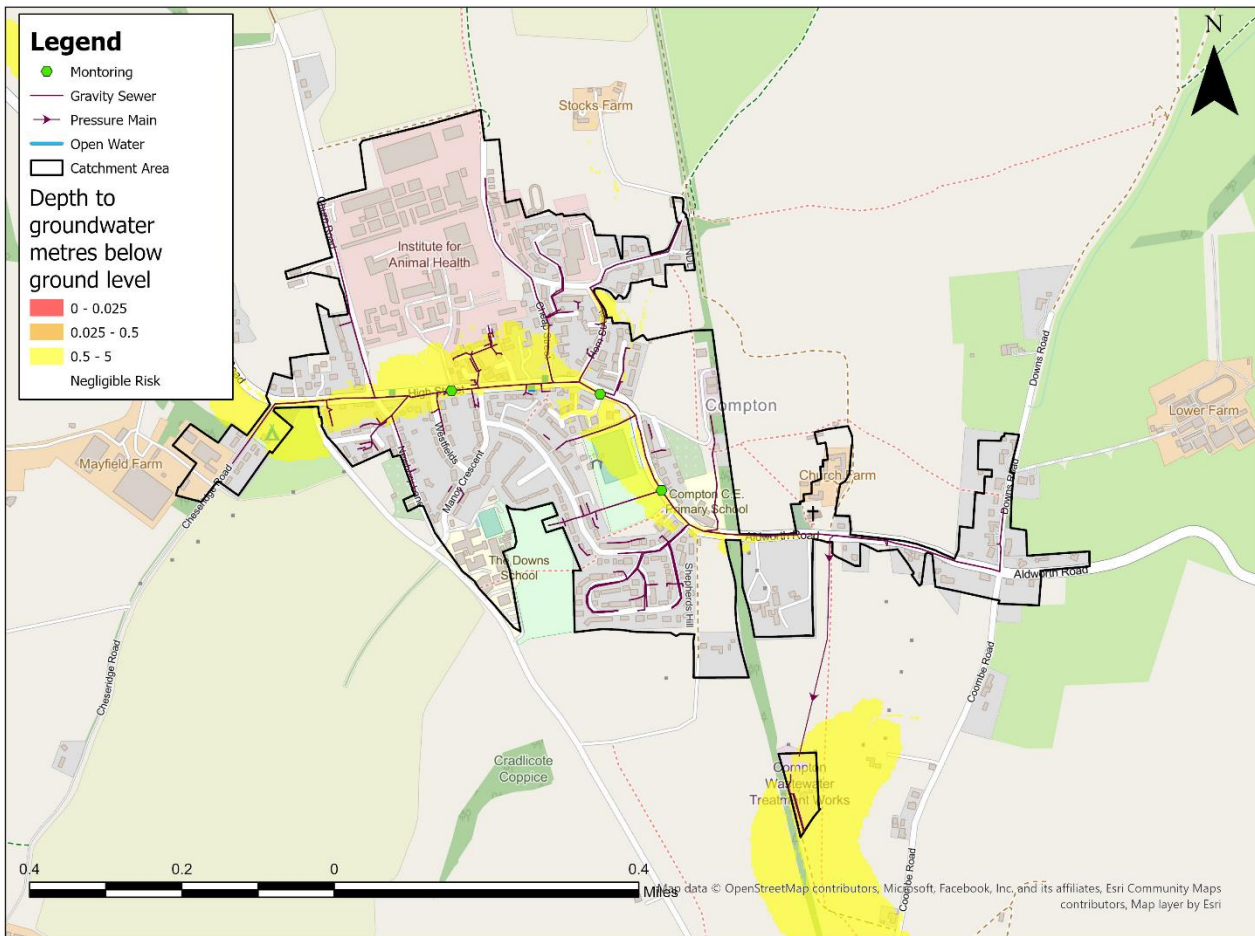
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Overview

This addendum to the Compton Groundwater Impacted System Management Plan 2021 (GISMP) provides an update on performance/work undertaken in the Hydrological Year October 2023 to September 2024. The key points covered include:

- Hydrological conditions
- Performance of the sewerage system
- Mitigation / remedial measures progressed over the last year and being planned
- Summary and plan for 2024/25

Figure 1 – Compton Monitoring Plan



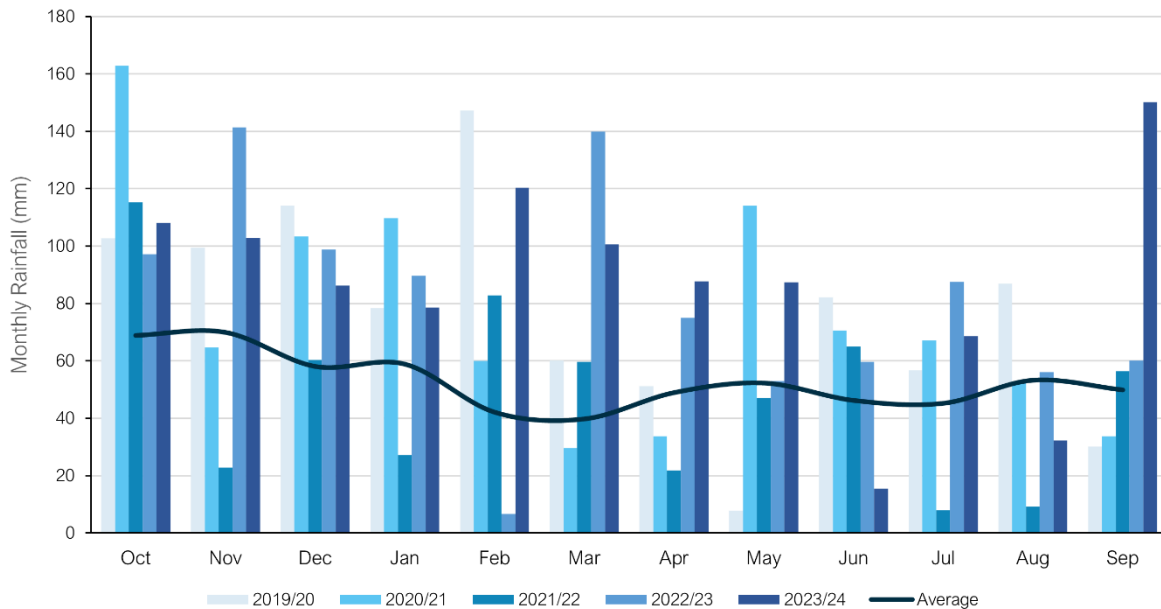
Hydrological Review – 2023-2024

This section summarises the hydrological conditions within the Compton catchment within the period under investigation and provides comparison against previous year’s performance to put the annual performance into context. The hydrological review has been undertaken based on the Hydrological Year which runs October 1st to September 30th.

Catchment Rainfall

Representative Radar rainfall has been used to generate monthly data at catchment level for comparison with average data generated by local Met Office Weather Station Records. Figure 2 presents the comparison of this data for the last five hydrological years to support longer term trends within the local system.

Figure 2 – Monthly Rainfall Data



Average Values taken from Met Office Weather Station at Benson based on the period 1991-2020

The total rainfall for the 2023/24 hydrological year is 64% above the annual average total. Total rainfall values are presented in Table 3 below.

Table 3 –Total Rainfall Based on Hydrological Year

Average (mm)	2019/20 (mm)	2020/21 (mm)	2021/22 (mm)	2022/23 (mm)	2023/24 (mm)
634	917	902	576	965	1038

Groundwater / Local River Level

The Compton catchment is situated in the Berkshire Downs water resources area. It sits in the Seaford Chalk formation of sedimentary bedrock. The Compton catchment and its subsequent base geology is part of a designated principal aquifer within the UK.

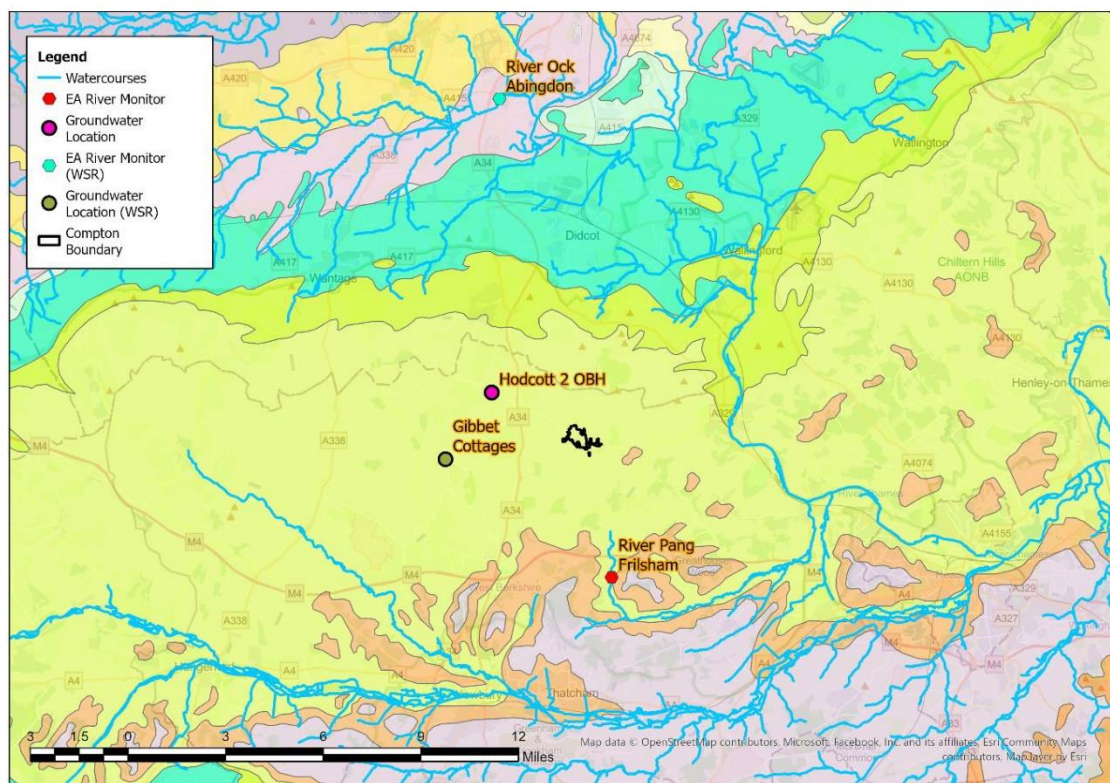
The Environment Agency has gauging stations on local watercourses measuring stage and observation boreholes (OBH) measuring groundwater levels locally to the catchment which can be used to provide indicative local groundwater performance.

From previous investigations we have identified the following sites are good indicators of groundwater levels within the catchment.

- Hodcott 2 OBH.
- River Pang, Frilsham.

These sites are illustrated in Figure 4, alongside the closest groundwater reference station and closest gauging station from the Water Situation Report.

Figure 4 – Local Monitoring Stations



Figures 5A-5B represent the last three hydrological years of level information at the indicator sites to build a picture of the relative conditions prevalent in the current year. It is presented against both the daily total rainfall values for the catchment and a rolling 15 day total rainfall.

Figure 5A – Hodcott 2 OBH

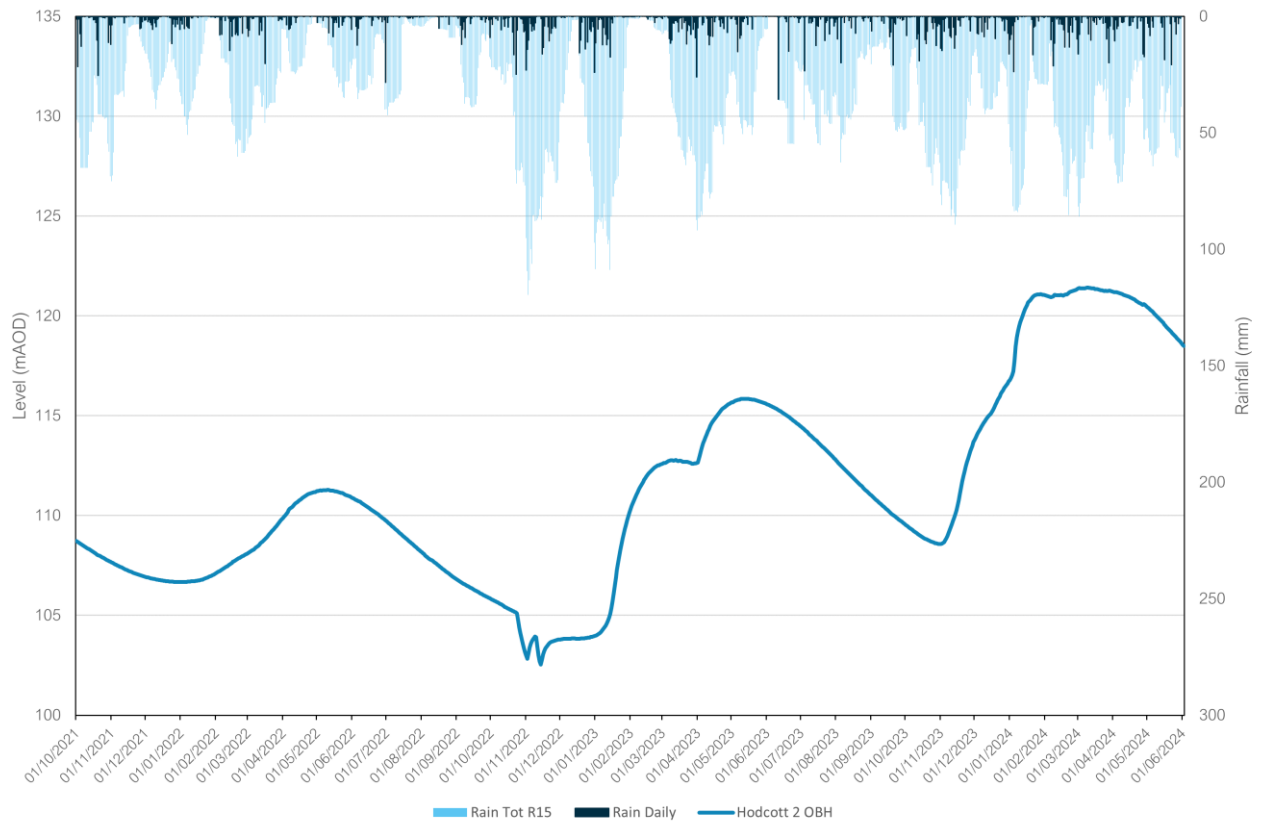
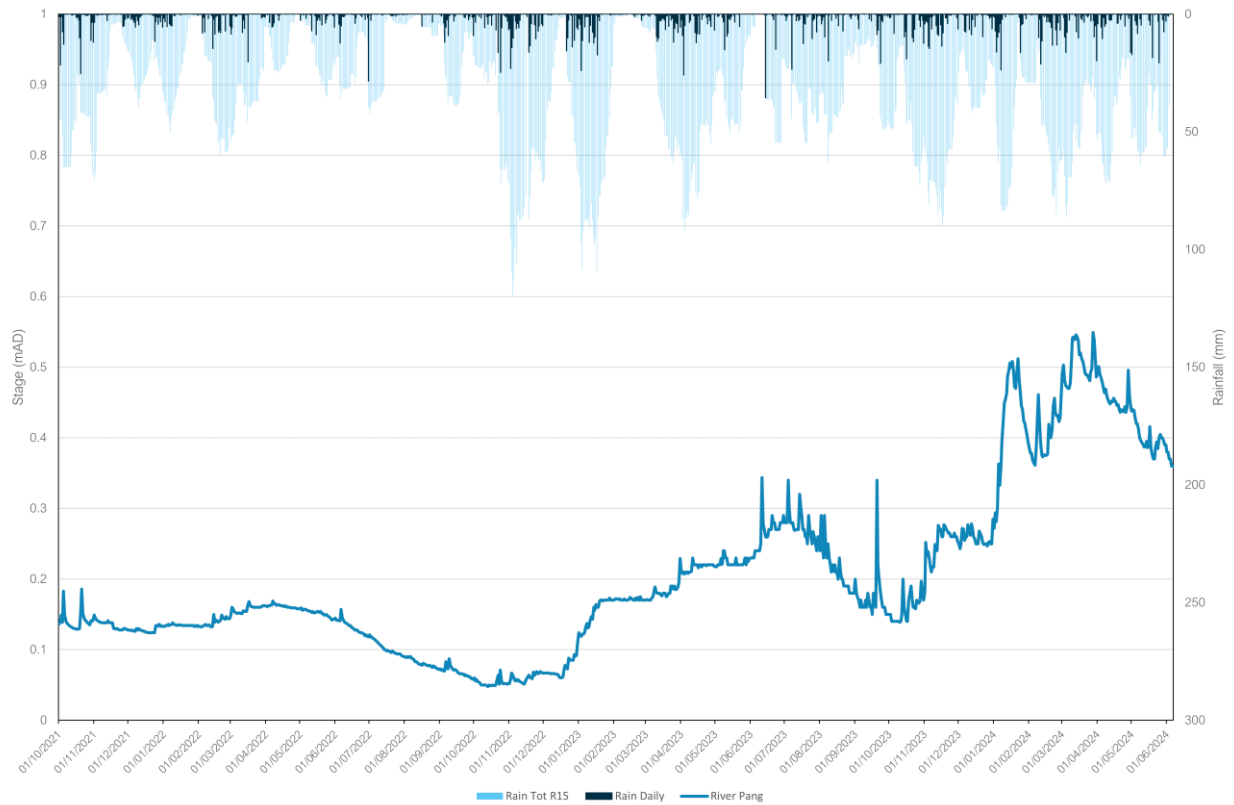
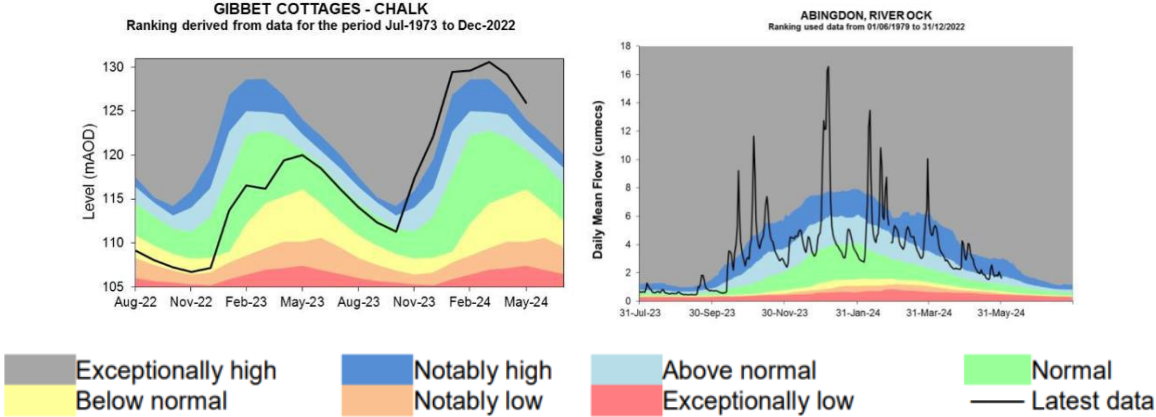


Figure 5B – River Pang, Frilsham



In addition to these specific stations, the wider groundwater context is illustrated in the Water Situation Report for Berkshire Downs. The nearest groundwater reference station is Gibbet Cottages. This site shows groundwater levels generally at normal levels in 2023, before rising towards the end of the year to reach exceptionally high levels. Groundwater levels have remained exceptionally high in 2024. This can be seen in Figure 6 alongside the river indicator data at Abingdon on the River Ock.

Figure 6 – Water Situation Report



Extract from - [Water Situation Report \(publishing.service.gov.uk\)](https://publishing.service.gov.uk)

Network Performance

Within the Compton catchment there is one site detailed within the Environment Agency Consents Database which has an Event Duration Monitor (EDM) fitted.

Table 7 below details the last 2 years performance of overflows within the catchment.

Table 7 – Event Duration Monitoring

Overflow	2022		2023	
	Spills	Duration (hours)	Spills	Duration (hours)
Compton STW	0	0	0	0

No spills were recorded at Compton STW in 2022 or in 2023. The lower threshold level for groundwater infiltration in the Compton system, which has been identified as when significant levels of groundwater infiltration into the sewer network begin to occur, is assigned as 116 mAOD at the Hodcott 2 OBH indicator site. Based on the data shown in Figure 5, groundwater levels peaked just below this level in 2023. Groundwater levels in the catchment remained significantly below threshold level throughout 2022. Particularly when considering that the long-term average annual spill count for the catchment is 20 spills per year (calculated using EDM spill data and contained in the Annual Return), the absence of any spills at Compton STW during 2022 and 2023 when groundwater levels remained relatively low, is therefore indicative of the wider relationship between rainfall totals, elevated groundwater levels and spills in the catchment.

For further discussion highlighting the relationship between groundwater levels and spills in the catchment, see last year's Addendum Report included in this PDF document.

Investigations & Interventions

This section details the activities that have been undertaken within the catchment within the Hydrological Year 2023-24.

Monitor Installations

The sewer depth monitor (SDM) programme supports long term groundwater understanding within GISMP catchments. Currently, there are a total of 3 monitors installed within the Compton catchment. There are currently no further monitor installs planned.

The data from these will be cross-referenced with other long-term records (where available) within the catchment.

Remediation Works Undertaken this Hydrological Year

Table 9 below provides a summary of the investigations and remediation works undertaken or planned within the Compton catchment in the 2023-24 Hydrological Year as well works undertaken within the previous two hydrological years.

Table 9 – Works Undertaken in the 2023/24 Hydrological Year, 2022/23 Hydrological Year & 2021/22 Hydrological Year

Investigation/ remediation type	Number/ length undertaken 2021/22	Number/ length undertaken 2022/23	Number/ length undertaken 2023/24
CCTV survey	N/A	N/A	N/A
Look and lift survey	N/A	N/A	2 surveys
Sewer lining	425 metres	N/A	N/A
Patch lining	N/A	N/A	N/A
Manhole sealing	18 manholes	18 manholes	N/A
Manhole sealing plates	N/A	N/A	N/A
Manhole covers and frames replaced	N/A	N/A	N/A

Tankering was required in the catchment during the 2023/24 Hydrological Year. In total, 62 days of flow management were required at Aldworth Road SPS.

An upgrade is also planned for Compton STW. This will improve its ability to treat the volumes of incoming sewage, reducing the need for untreated discharges to the environment. The scheme is due to be completed in 2025, however, delivery dates are being managed at a programme level, delivery dates stated are based upon current views and are subject to change.

Furthermore, the catchment is expected to meet all government targets for storm overflows by 2030.

Summary

Indicator site data suggests groundwater levels in the Compton catchment did not reach threshold level in 2023, this is reflected by an absence of spills in 2023. This hydrological year, groundwater levels in the catchment have reached significantly higher levels than those observed in the previous hydrological year, and EDM spill data for 2024 will be analysed once available to continue to examine the relationship between groundwater levels and overflow spills in the catchment.

Lift and look and CCTV surveys will be undertaken in remaining wet winter periods if conditions allow and subject to funding and available capacity. The aim of this is to find further priority locations for remediation and investigating/justifying the need for future larger scale lining as part of our Price Review (PR) process if required.

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Thames & Chilterns South river basin summary

The Thames Water region covers the length of the River Thames from its source down to Tilbury including all its tributaries. The sewer network has overflows that discharge along the River Thames and its associated tributaries. The role of storm overflows in the network is to protect against property flooding from the sewerage system. Storm overflows, which may be augmented with settlement tanks, are employed to optimise the split between wastewater treatment and the management of rainfall. Storm separation is typically designed in accordance with regulatory guidance.

Aligned with our Drainage and Wastewater Management Plan (DWMP) approach, the Thames Water region has been split into River Basins, each contains a varying number of localised sewer networks. Taking this approach allows alignment to the different drivers in each river basin and provides an efficient way to investigate, tackle performance and protect the environment. This report covers the performance of the sewer networks within the Thames and Chilterns South River Basin which are heavily influenced by groundwater infiltration into the network.

The Thames and Chilterns South River Basin covers the upper reaches of the River Thames including its associated tributaries and streams. The river basin contains thirteen heavily groundwater impacted Thames Water localised sewer systems that interact with various rivers and streams forming the tributaries to the River Thames. Each localised sewer system contains storm overflows located at sewage treatment works (STW) and/or in the network; or are “treat all” sites with no overflow. Figure 1 shows the relationship between the sewer systems and the associated rivers and streams. Figure 2 shows the location of each localised sewer system within the Thames and Chilterns South River Basin with an insert showing the location of the Thames and Chilterns South River Basin in relation to the Thames Water Region.

Sewer System	Associated River / Stream	Relationship to the River Thames
Ashampstead STW	River Lambourn	Indirect tributary of the River Thames via River Kennet
Benson STW	River Thames	River Thames
Briff Lane (Bucklebury) STW	River Pang	Direct tributary of the River Thames
Chinnor STW	Cuttle Brook	Indirect tributary of the River Thames via River Thame
Compton STW	River Pang	Direct tributary of the River Thames
Cuddington STW	Cuddington Brook	Indirect tributary of the River Thames via Beverley Brook
East Ilsley STW	River Pang	Direct tributary of the River Thames
Hampstead Norreys STW	River Pang	Direct tributary of the River Thames
Little Marlow STW	River Thames	River Thames
Princes Risborough STW	Cuttle Brook	Indirect tributary of the River Thames via River Thame
South Moreton STW	Hakka's Brook, Mill Brook	Hakka's Brook indirect tributary of the River Thames via Mill Brook. Mill Brook indirect tributary of the River Thames via Wallingford.
Watlington STW	Chalgrove Brook	Indirect tributary of the River Thames via River Thame
Worminghall STW	River Thame	Direct tributary of the River Thames

Figure 1: Relationship of the Sewer Systems to Associated Rivers

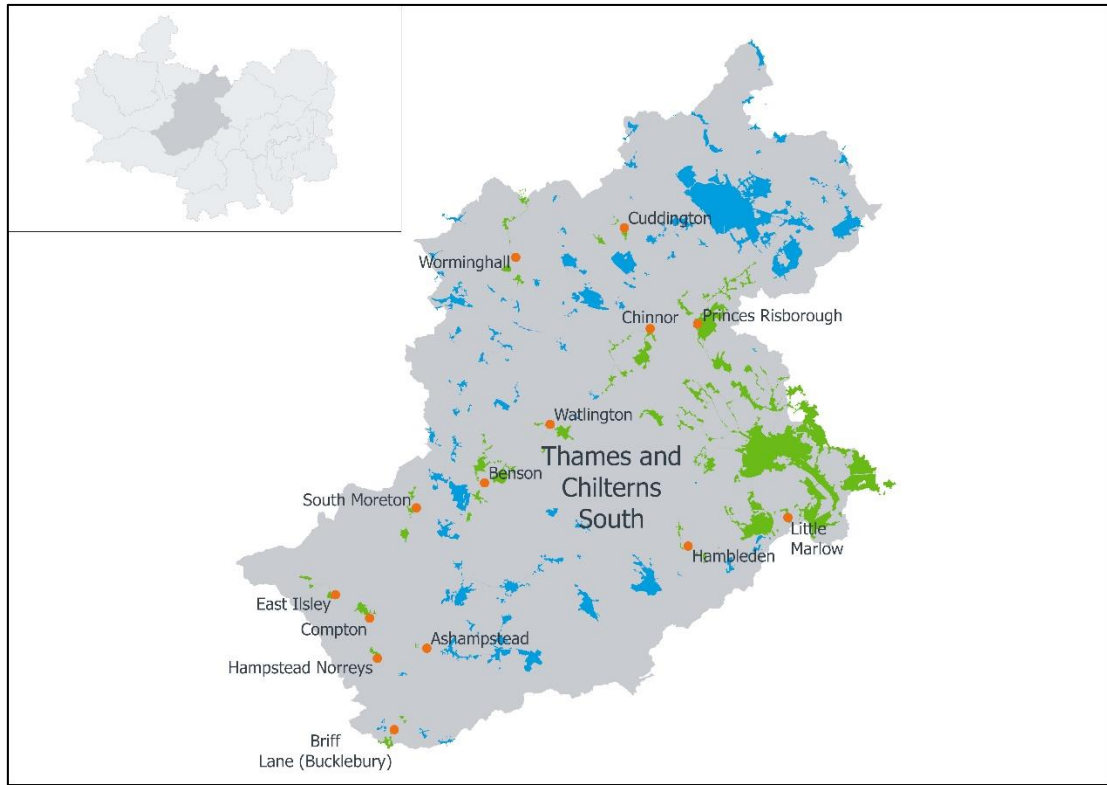


Figure 2: Location of Sewer Systems Within the Thames and Chilterns South River Basin

Ashampstead

Ashampstead is located in West Berkshire, approximately 10 miles north-west of Reading.

This addendum provides an update on work undertaken in the hydrological year October 2024 to September 2025 for the Ashampstead sewerage system. The key points covered include:

- Hydrological conditions
- Performance of the sewerage system
- Mitigation / remedial measures progressed over the last year

Figures 1 to 5 illustrate the relationship between rainfall and river levels. As can be seen the decrease in rainfall from 2023/24 into 2024/25, shown in Figure 1; shows a correlation in decreased groundwater and river levels shown in Figures 2 to 5.

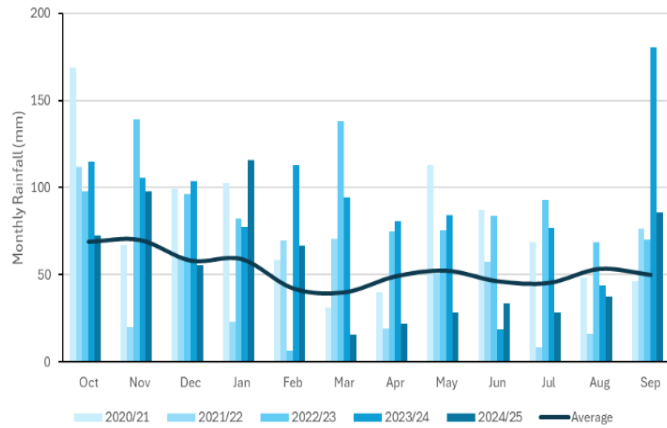


Figure 1: Monthly rainfall data 2020/21 to 2024/25

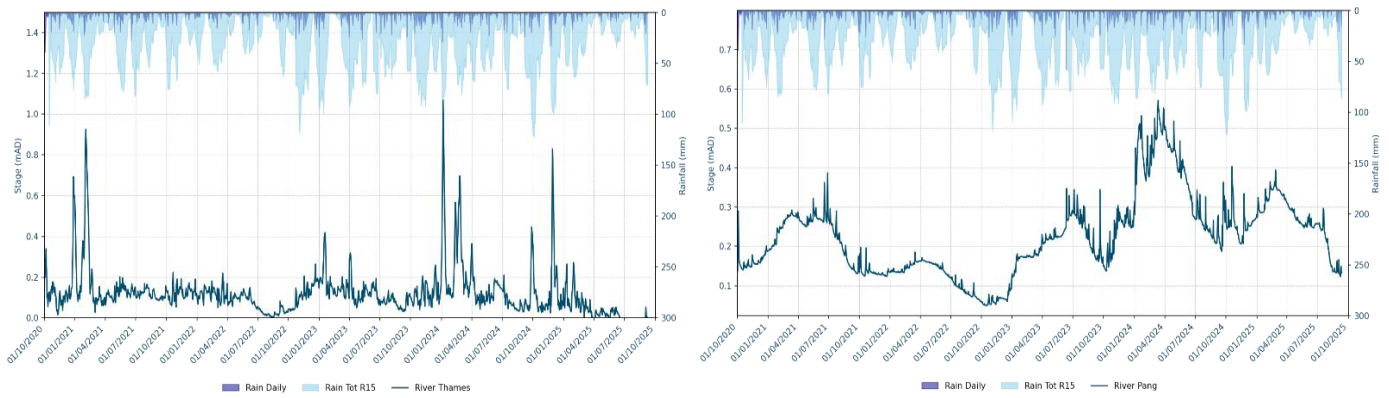


Figure 2: River Level data for Thames at Goring Lock/ Figure 3: River Pang at Frilsham

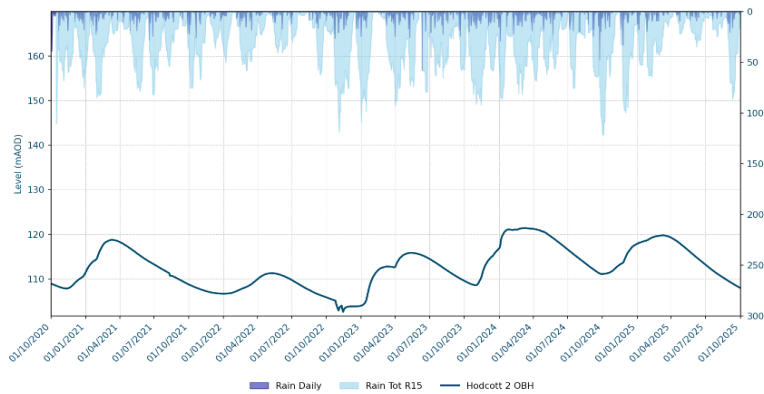


Figure 4: River Level data for Hodcott 2 OBH

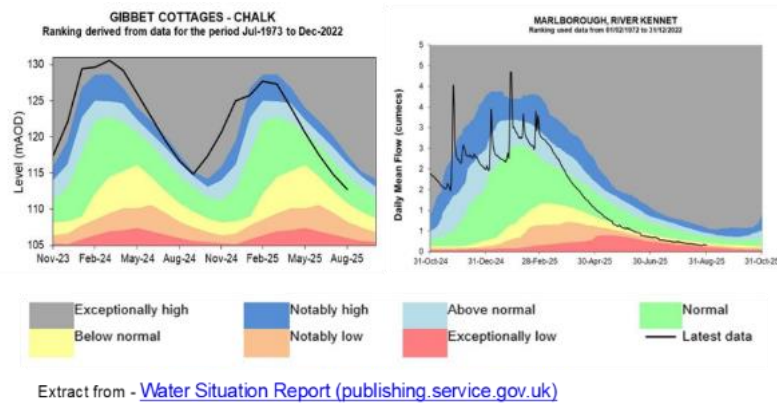


Figure 5: Ground Water Situation Report

Ashampstead STW is a ‘treat all’ site and there are no consented overflows located in the catchment. Therefore, overflow performance for the Ashampstead catchment has not been detailed.

Table 1 below outlines the remediation works undertaken to address infiltration in the catchment, and enhancements to treatment works and/or pumping stations. Please note that this table only refers to work completed in the previous year.

Investigation / remediation type	2020/21	2021/22	2022/23	2023/24	2024/25
CCTV surveys	-	-	-	-	-
Look and lift surveys	-	-	-	-	-
Sewer lining	-	-	-	-	-
Patch lining	-	-	-	-	-
Manhole sealing / plates / covers and frames replaced	-	-	-	-	-
ATAC unit deployment	-	-	-	-	-

Summary

A review of river level data over 2023/24 has increased compared to previous years. As mentioned previously, Ashampstead STW is a ‘treat all’ site and there are no consented overflows located in the catchment. Therefore, overflow performance for the Ashampstead catchment has not been detailed. Moreover, there is a slight drop in groundwater levels for 2024/2025 compared to the groundwater levels of the previous year, but the effect of this decrease will be analysed when 2025 spill data is published.

Benson is located in South Oxfordshire, approximately 1.5 miles north of Wallingford.

This addendum provides an update on work undertaken in the hydrological year October 2024 to September 2025 for the Benson sewerage system. The key points covered include:

- Hydrological conditions
- Performance of the sewerage system
- Mitigation / remedial measures progressed over the last year

Figures 1 to 4 illustrate the relationship between rainfall and spills at CSOs. As can be seen the decrease in rainfall from 2023/24 into 2024/25, shown in Figure 1; shows a correlation to the slightly decreased river levels shown in Figure 2 and decreased number and duration of spills at the CSOs shown in Figure 4.

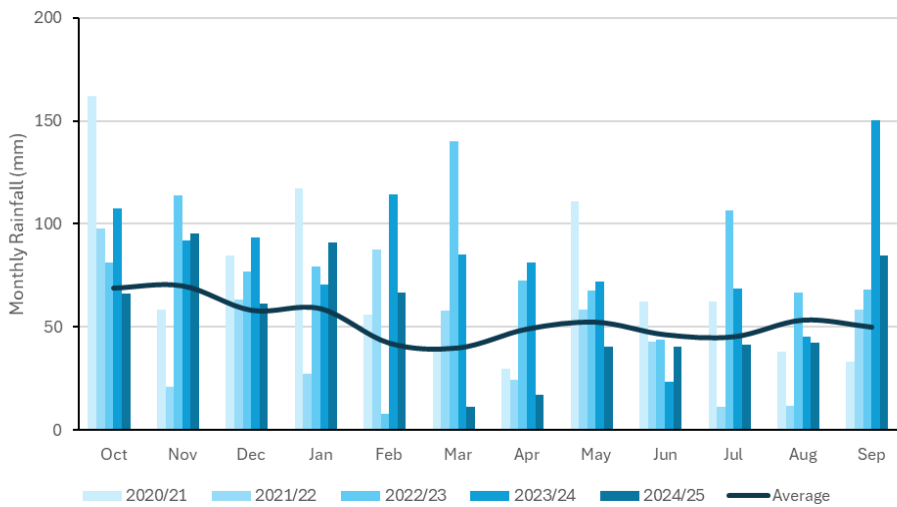


Figure 1: Monthly rainfall data 2020/21 to 2024/25

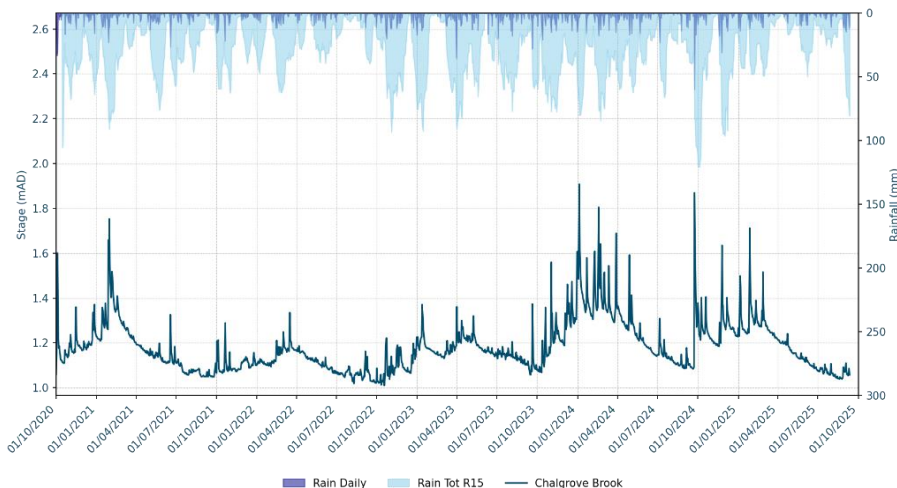


Figure 2: River Level data for Chalgrove Brook, Chalgrove

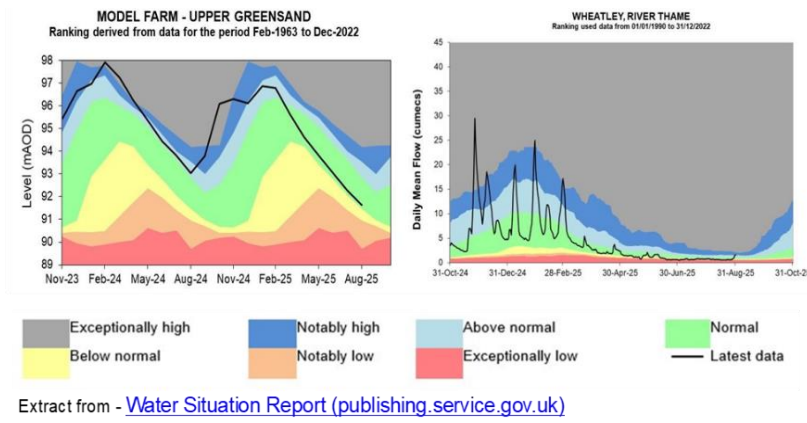


Figure 3: Ground Water Situation Report

Table 1 below details the last 2 years performance of overflows in the catchment. To assess EDM performance and its relation to groundwater infiltration, a review of the month-on-month spill performance in 2023 and 2024 against the monthly total rainfall values has been undertaken, as observed in Figure 4.

Event Duration Monitoring	2023		2024	
Overflow	Annual Spills	Duration (hours)	Annual Spills	Duration (hours)
Benson STW	12	164	101	1770.49

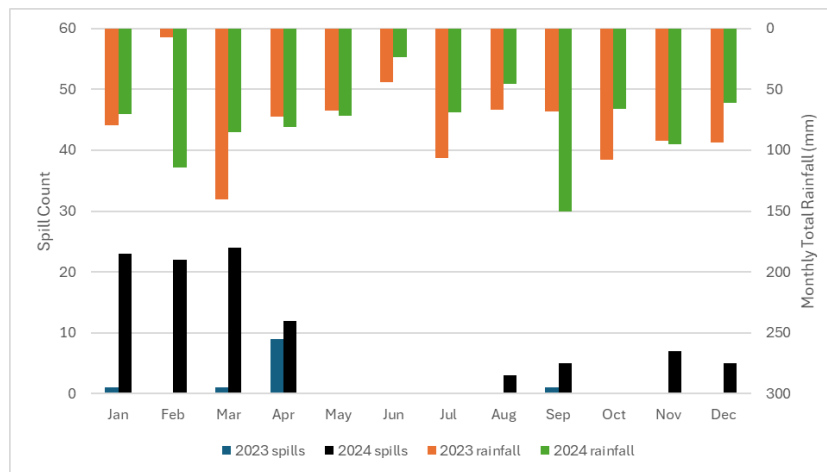


Figure 4: Monthly rainfall data versus monthly spill count for 2023 and 2024 – Benson STW

Table 2 below outlines the remediation works undertaken to address infiltration in the catchment, and enhancements to treatment works and/or pumping stations. Please note that this table only refers to work completed in the previous year.

Investigation / remediation type	2020/21	2021/22	2022/23	2023/24	2024/25
CCTV surveys	-	-	-	-	2,100m
Look and lift surveys	-	-	-	-	-
Sewer lining	-	-	-	-	-
Patch lining	-	-	-	-	-
Manhole sealing / plates / covers and frames replaced	-	-	-	-	-
ATAC unit deployment	-	-	-	-	-

Summary

A review of river level data over 2023/24 has increased compared to previous years. The number and duration of spills have increased in 2024 compared to 2023. The higher number of annual spills and river levels could be a result of the increased rainfall in 2024 (seen in Figure 6). Moreover, there is a slight drop in groundwater levels for 2024/2025 compared to the groundwater levels of the previous year, but the effect of this decrease will be analysed when 2025 spill data is published. Thames Water delivered wastewater treatment enhancement scheme in 2024 which has increased treatment capacity, reducing the likelihood of storm discharges.

Thames Water are currently implementing GISMP recommendations to reduce infiltration in the sewer network to be completed in 2026. This work includes sealing 70 manholes and replacing 21 standard manhole covers and frames with “Low Leak” covers and frames in locations where surface water could potentially accumulate. Additionally, an estimated 2,604m of sewers are being sealed in locations identified as being at high risk of ground water infiltration, using “Leak Tight” Cured in Place Pipe Lining. CCTV surveys of these sewers are being carried out prior to sealing them to confirm the condition of the sewers.

Briff Lane (Bucklebury)

Briff Lane (Bucklebury) is located in West Berkshire, approximately 5 miles north-east of Newbury.

This addendum provides an update on work undertaken in the hydrological year October 2024 to September 2025 for the Briff Lane (Bucklebury)sewerage system. The key points covered include:

- Hydrological conditions
- Performance of the sewerage system
- Mitigation / remedial measures progressed over the last year

Figures 1 to 5 illustrate the relationship between rainfall and spills at CSOs. As can be seen the decrease in rainfall from 2023/24 into 2024/25, shown in Figure 1; shows a correlation in decreased river levels shown in Figure 2 and 3, and decreased number and duration of spills at the CSOs shown in Figure 5.

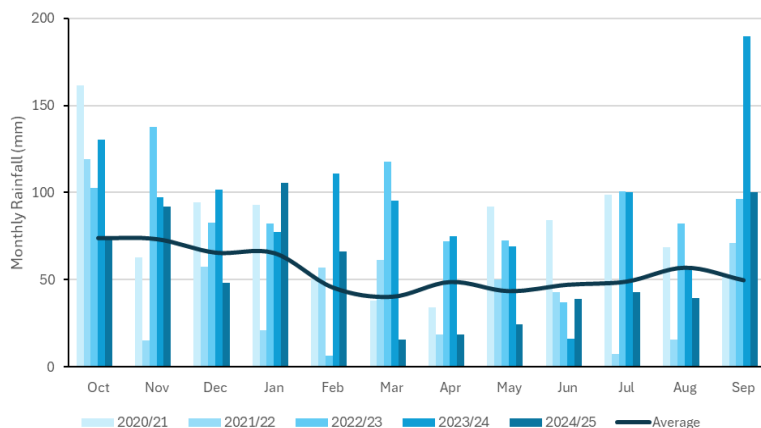


Figure 1: Monthly rainfall data 2020/21 to 2024/25

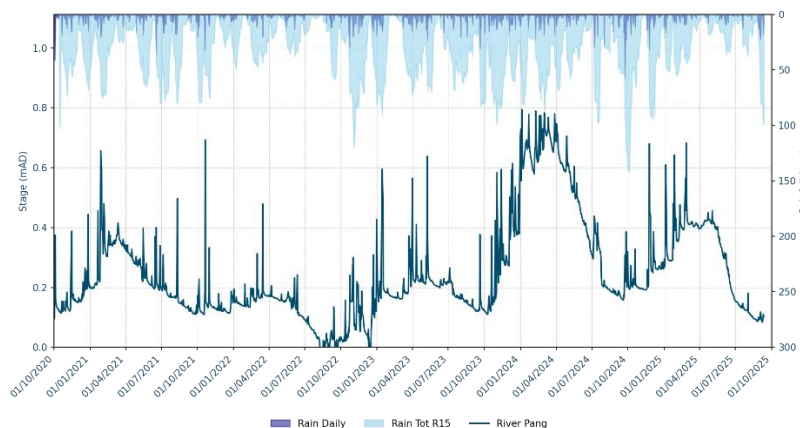


Figure 2: River Level data for River Pang, Bucklebury

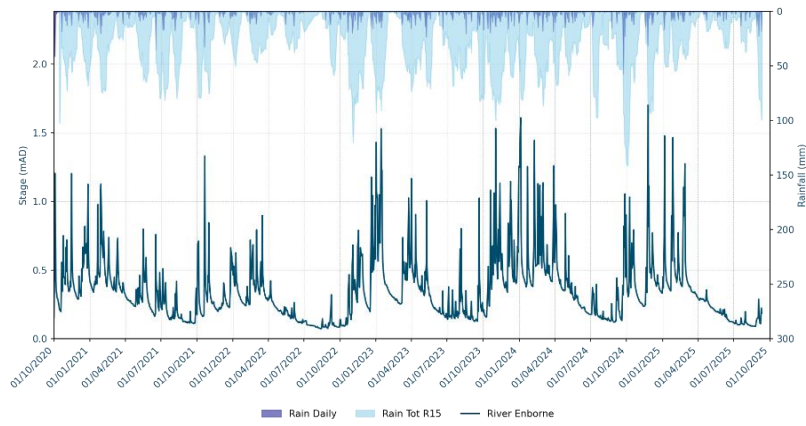


Figure 3: River Level data for River Enborne, Brimpton

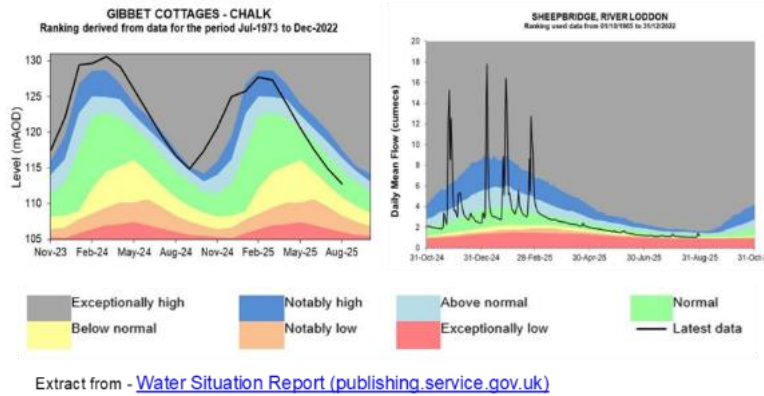


Figure 4: Ground Water Situation Report

Table 1 below details the last 2 years performance of overflows in the catchment. To assess EDM performance and its relation to groundwater infiltration, a review of the month-on-month spill performance in 2023 and 2024 against the monthly total rainfall values has been undertaken, as observed in Figure 5.

Event Duration Monitoring	2023		2024	
Overflow	Annual Spills	Duration (hours)	Annual Spills	Duration (hours)
Briff Lane (Bucklebury) STW	85	1303.75	73	833.30

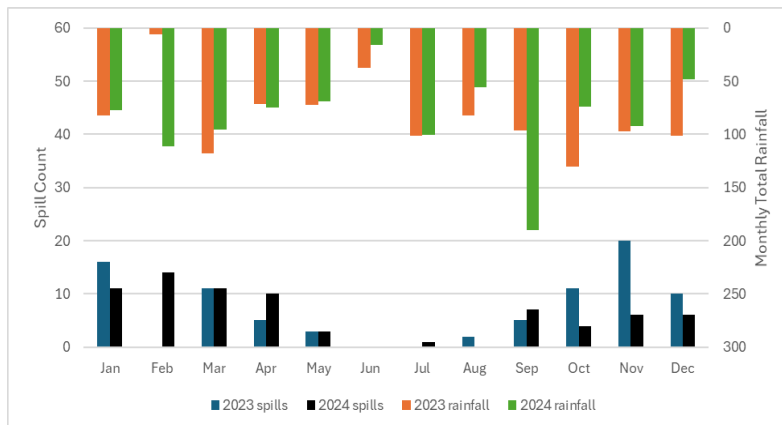


Figure 5: Monthly rainfall data versus monthly spill count for 2023 and 2024 – Briff Lane (Bucklebury) STW

Table 2 below outlines the remediation works undertaken to address infiltration in the catchment, and enhancements to treatment works and/or pumping stations. Please note that this table only refers to work completed in the previous year.

Investigation / remediation type	2020/21	2021/22	2022/23	2023/24	2024/25
CCTV surveys	-	-	-	-	-
Look and lift surveys	-	-	-	-	-
Sewer lining	-	-	-	-	-
Patch lining	-	-	-	-	-
Manhole sealing / plates / covers and frames replaced	-	-	-	-	-
ATAC unit deployment	-	-	-	-	-

Summary

A review of river level data over 2023/24 has increased compared to previous years for River Pang (Figure 2), while River Enborne (Figure 3) has remained consistent with river levels. The number and duration of spills have decreased in 2024 compared to 2023. The lower number of annual spills could be influenced by River Enborne, and its constant river level throughout 2024 and 2023. Moreover, there is a slight drop in groundwater levels for 2024/2025 compared to the groundwater levels of the previous year, but the effect of this decrease will be analysed when 2025 spill data is published.

Chinnor is located on the Cuttle Brook, a tributary of the River Thames in South Oxfordshire, approximately 20km east of Oxford. This addendum provides an update on work undertaken in the hydrological year October 2024 to September 2025 for the Chinnor sewerage system. The key points covered include:

- Hydrological conditions
- Performance of the sewerage system
- Mitigation / remedial measures progressed over the last year

Figures 1 to 6 illustrate the relationship between rainfall and spills at CSOs. As can be seen the decrease in rainfall from 2023/24 into 2024/25, shown in Figure 1; shows a correlation to decreased river levels shown in Figure 2 and 3, and decreased number and duration of spills at the CSOs shown in Figures 5 and 6.

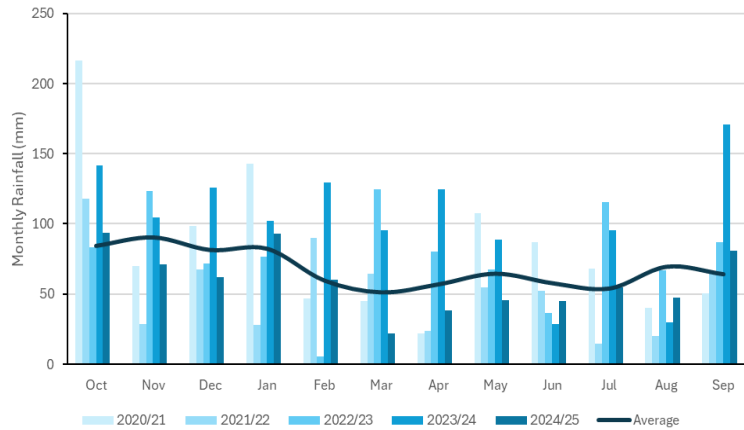


Figure 1: Monthly rainfall data 2020/21 to 2024/25

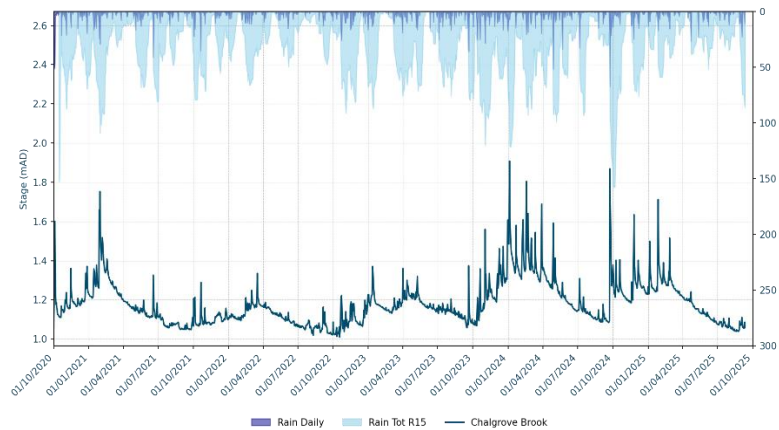


Figure 2: River Level data for Chalgrove Brook, Chalgrove

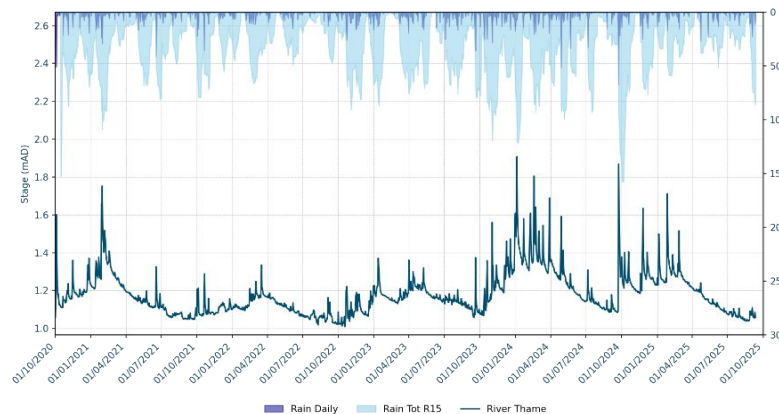


Figure 3: River Level data for River Thames, Thame Bridge

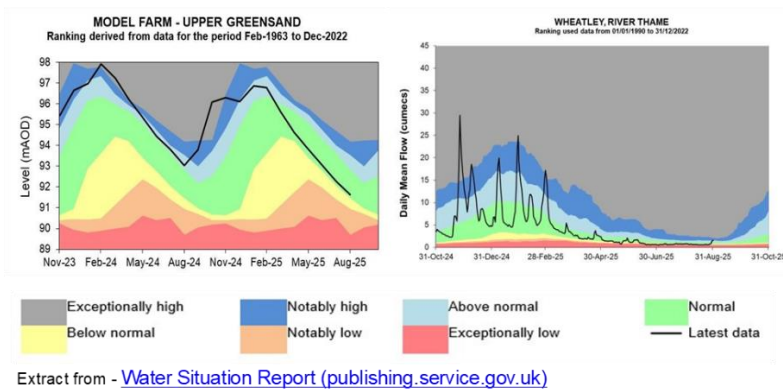


Figure 4: Ground Water situation Report

Table 1 below details the last 2 years performance of overflows in the catchment. To assess EDM performance and its relation to groundwater infiltration, a review of the month-on-month spill performance in 2023 and 2024 against the monthly total rainfall values has been undertaken, as observed in Figures 5 and 6.

Event Duration Monitoring	2023		2024	
Overflow	Annual Spills	Duration (hours)	Annual Spills	Duration (hours)
Chinnor STW	89	558	105	825.03
Manor Farm SPS	1	1	4	60

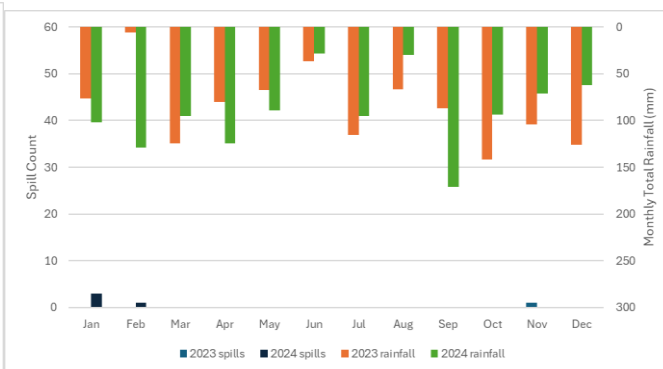
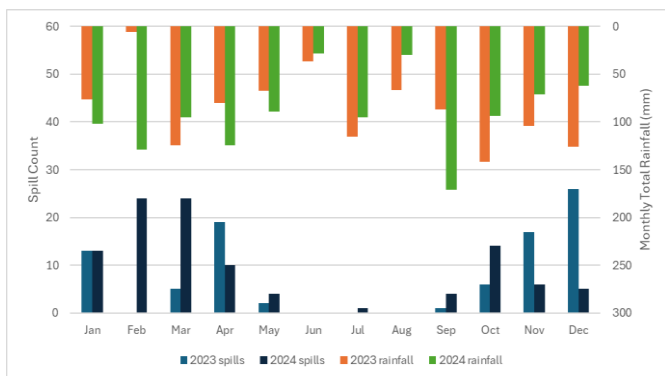


Figure 5: Monthly rainfall data versus monthly spill count for 2023 and 2024 – Chinnor STW / Figure 6: Monthly rainfall data versus monthly spill count for 2023 and 2024 – Manor Farm SPS

Table 2 below outlines the remediation works undertaken to address infiltration in the catchment, and enhancements to treatment works and/or pumping stations. Please note that this table only refers to work completed in the previous year.

Investigation / remediation type	2020/21	2021/22	2022/23	2023/24	2024/25
CCTV surveys	-	-	559m	-	800m
Look and lift surveys	-	-	-	3	1
Sewer lining	-	-	-	-	-
Patch lining	-	-	-	-	0
Manhole sealing / plates / covers and frames replaced	-	-	-	-	0
ATAC unit deployment	-	-	-	-	-

Summary

A review of river level data over 2023/24 has increased compared to previous years. The number and duration of spills have increased in 2024 compared to 2023. The higher number of annual spills and river levels could be a result of the increased rainfall in 2024 (seen in Figure 5 & 6). Moreover, there is a slight drop in groundwater levels for 2024/2025 compared to the groundwater levels of the previous year, but the effect of this decrease will be analysed when 2025 spill data is published.

In the reporting year, we have undertaken CCTV survey of our sewers network, covering some 800 metres. These CCTV surveys help us monitor the condition of sewer network as well as identifying potential defects that could allow groundwater infiltration. In conjunction with the CCTV, we have undertaken Lift and Look surveys in Mill Lane Catchment, this type of visual inspection allows for quicker and more extensive checks on performance of the system but lacks the point source observations that CCTV can yield.

Compton is located on the River Pang in West Berkshire, approximately 12km north of Newbury.

This addendum provides an update on work undertaken in the hydrological year October 2024 to September 2025 for the Compton sewerage system. The key points covered include:

- Hydrological conditions
- Performance of the sewerage system
- Mitigation / remedial measures progressed over the last year

Figures 1 to 5 illustrate the relationship between rainfall and spills at CSOs. As can be seen the decrease in rainfall from 2023/24 into 2024/25, observed in Figure 1; correlates to decreased groundwater and river levels displayed in Figure 2 to 4. Despite this, there are more frequent and longer duration of spills at the CSOs represented in Figure 5.

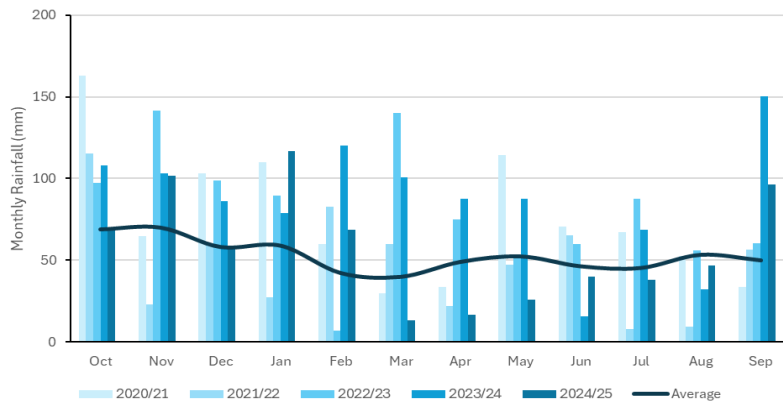


Figure 1: Monthly rainfall data 2020/21 to 2024/25

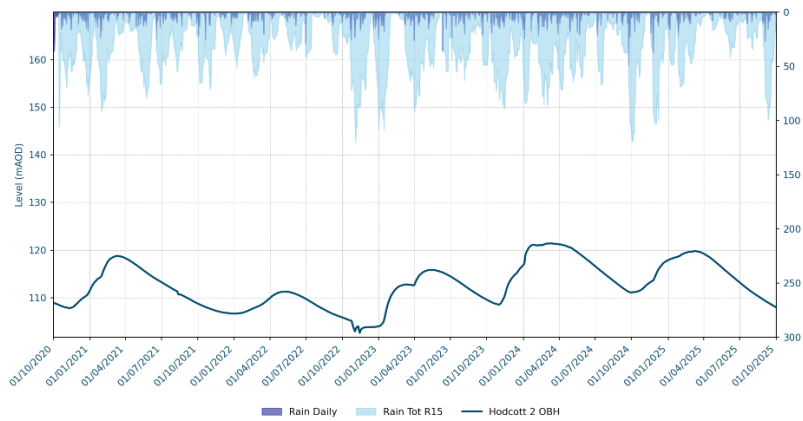


Figure 2: River Level data for Hodcott 2 OBH

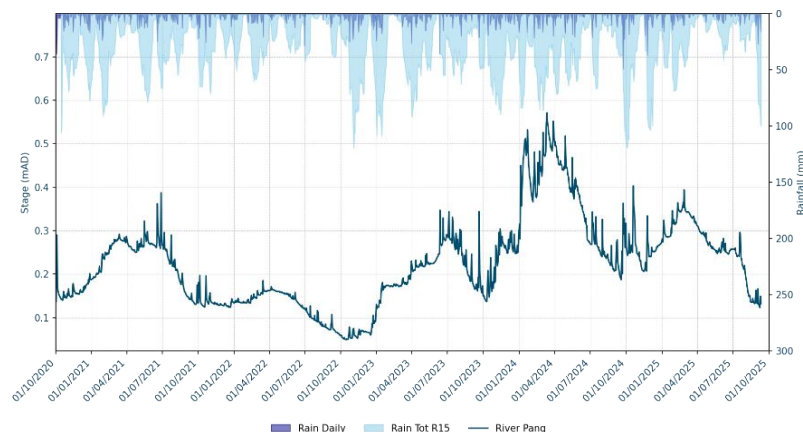


Figure 3: River Level data for River Pang, Frilsham

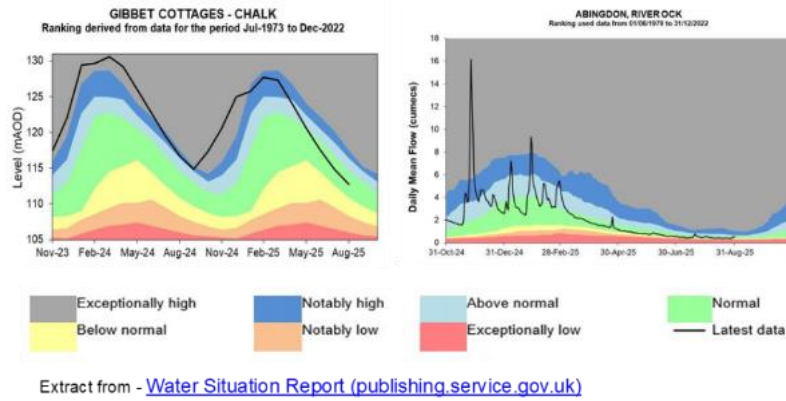


Figure 4: Ground Water Situation Report

Table 1 below details the last 2 years performance of overflows in the catchment. To assess EDM performance and its relation to groundwater infiltration, a review of the month-on-month spill performance in 2023 and 2024 against the monthly total rainfall values has been undertaken, as observed in Figure 5.

Event Duration Monitoring	2023		2024	
	Annual Spills	Duration (hours)	Annual Spills	Duration (hours)
Compton STW	0	0	52	1017.45

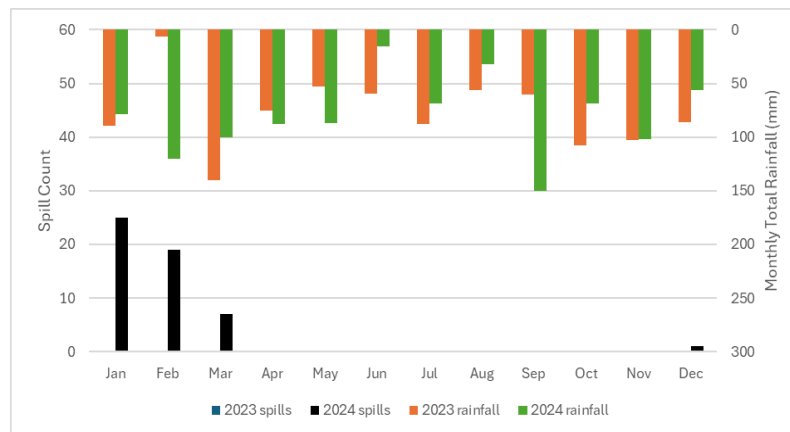


Figure 5: Monthly rainfall data versus monthly spill count for 2023 and 2024 – Compton STW

Table 2 below outlines the remediation works undertaken to address infiltration in the catchment, and enhancements to treatment works and/or pumping stations. Please note that this table only refers to work completed in the previous year.

Investigation / remediation type	2020/21	2021/22	2022/23	2023/24	2024/25
CCTV surveys	-	-	-	-	577m
Look and lift surveys	-	-	-	2	-
Sewer lining	-	425m	-	-	-
Patch lining	-	-	-	-	-
Manhole sealing / plates / covers and frames replaced	-	18	18	-	-
ATAC unit deployment	-	-	-	-	-

Summary

A review of river level data over 2023/24 has increased compared to previous years. The number and duration of spills have increased in 2024 compared to 2023. The higher number of annual spills and river levels could be a result of the increased rainfall in 2024 (seen in Figure 5). Moreover, there is a slight drop in groundwater levels for 2024/2025 compared to the groundwater levels of the previous year, but the effect of this decrease will be analysed when 2025 spill data is published.

In the reporting year, we have undertaken CCTV survey of our sewers network, covering some 577 metres. These CCTV surveys help us monitor the condition of sewer network as well as identifying potential defects that could allow groundwater infiltration. Currently, 9km of sewer lining with associated manhole sealing is planned for Compton in AMP 8. The extent of this work, however, will be subject to a pre-lining CCTV survey to understand the extent of the required works.

Cuddington

Cuddington is located in Buckinghamshire, approximately 6 miles west of Aylesbury and 10 miles east of Oxford.

This addendum provides an update on work undertaken in the hydrological year October 2024 to September 2025 for the Cuddington sewerage system. The key points covered include:

- Hydrological conditions
- Performance of the sewerage system
- Mitigation / remedial measures progressed over the last year

Figures 1 to 2 illustrate the relationship between rainfall and spills at CSOs. Observing Figure 1, the reduced rainfall in 2024/25 directly correlates to the decreased frequency and duration of spills outlined in Figure 2. There is no river or groundwater level data available.

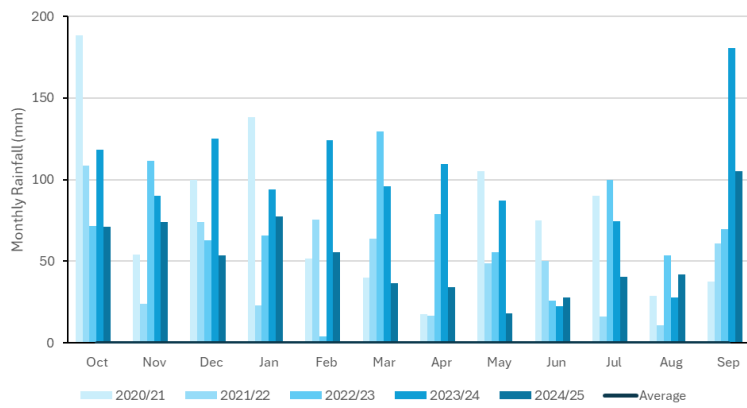


Figure 1: Monthly rainfall data 2020/21 to 2024/25

Table 1 below details the last 2 years performance of overflows in the catchment. To assess EDM performance and its relation to groundwater infiltration, a review of the month-on-month spill performance in 2023 and 2024 against the monthly total rainfall values has been undertaken, as observed in Figure 2.

Event Duration Monitoring	2023		2024	
Overflow	Annual Spills	Duration (hours)	Annual Spills	Duration (hours)
Cuddington STW	29	284	135	2866.15

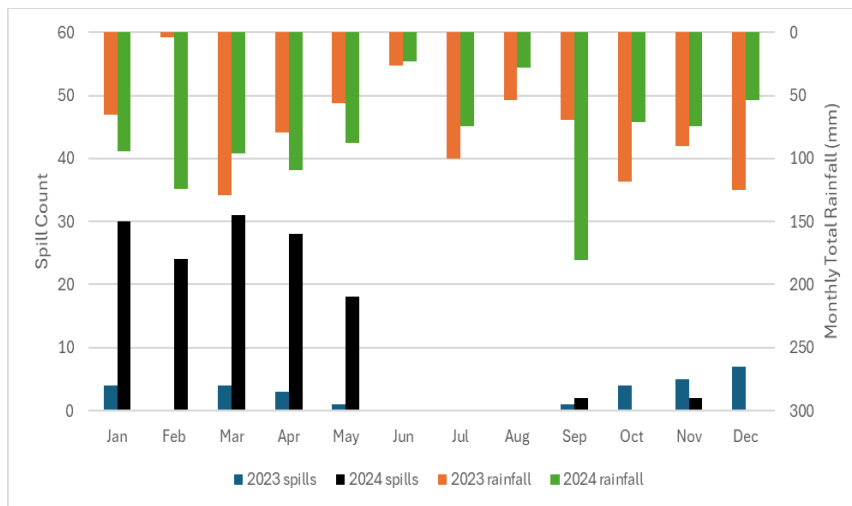


Figure 2: Monthly rainfall data versus monthly spill count for 2023 and 2024 – Cuddington STW

Table 2 below outlines the remediation works undertaken to address infiltration in the catchment, and enhancements to treatment works and/or pumping stations. Please note that this table only refers to work completed in the previous year.

Investigation / remediation type	2020/21	2021/22	2022/23	2023/24	2024/25
CCTV surveys	-	-	-	440m	-
Look and lift surveys	-	-	-	-	-
Sewer lining	-	-	-	-	-
Patch lining	-	-	-	-	-
Manhole sealing / plates / covers and frames replaced	-	-	-	-	-
ATAC unit deployment	-	-	-	-	-

Summary

The number and duration of spills have increased in 2024 compared to 2023. The higher number of annual spills could be a result of the increased rainfall in 2024 (seen in Figure 2). This suggests that rainfall directly correlates to spill events. However, there is insufficient evidence to support the validity of this correlation, as the highest number of spills for 2024 (March) does not occur during one of the wettest months.

East Ilsley

East Ilsley is located in the Lambourn Downs part of West Berkshire, approximately 15 miles north-west of Reading. This addendum provides an update on work undertaken in the hydrological year October 2024 to September 2025 for the East Ilsley sewerage system. The key points covered include:

- Hydrological conditions
- Performance of the sewerage system
- Mitigation / remedial measures progressed over the last year

Figures 1 to 4 illustrate the relationship between rainfall and river and groundwater levels. Observing Figure 1, there is decrease in rainfall from 2023/24 into 2024/25. This correlates to the reduced river levels and slightly reduced groundwater levels observed in Figure 2 to 4

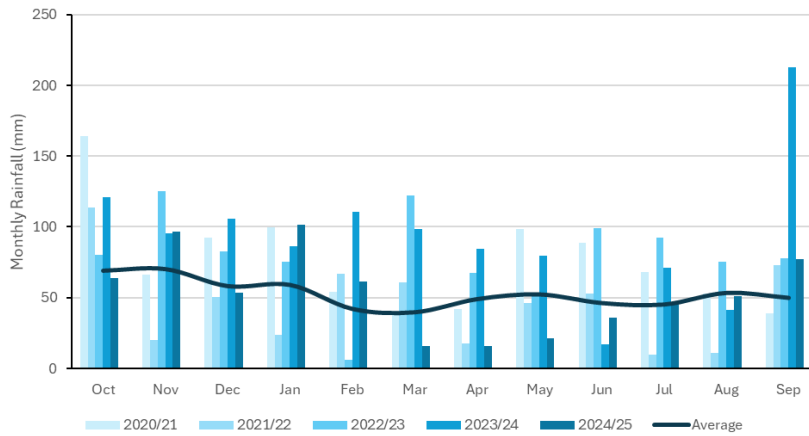


Figure 1: Monthly rainfall data 2020/21 to 2024/25

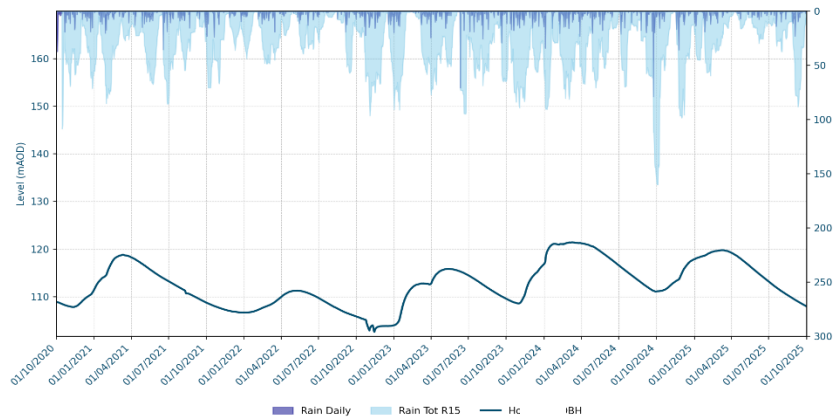


Figure 2: River Level data for Hodcott OBH

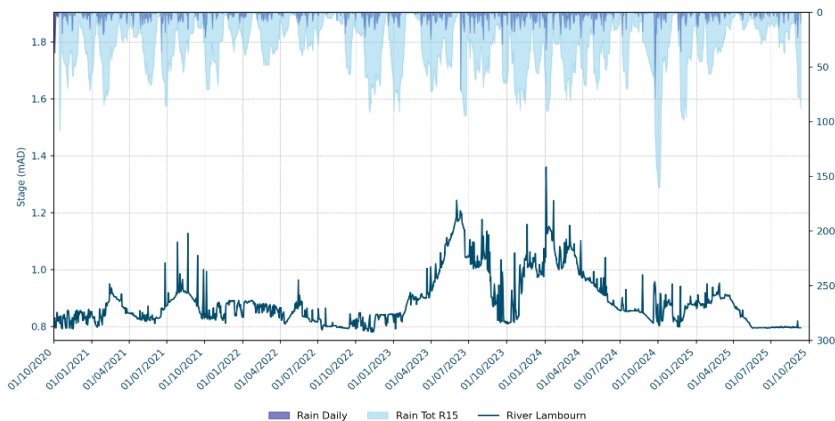


Figure 3: River Level data for River Lambourn, Lambourn

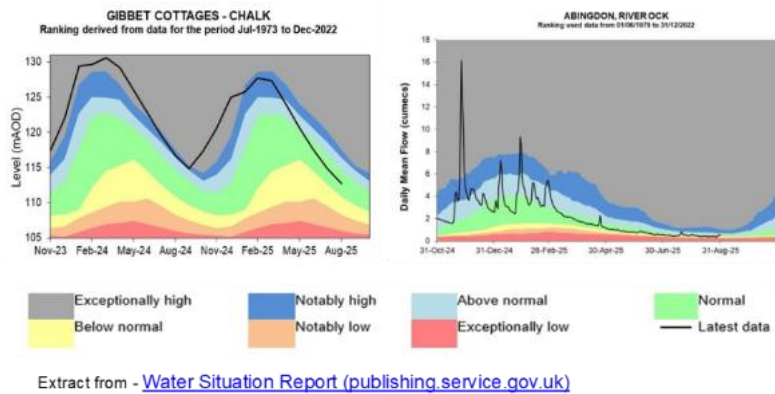


Figure 4: Ground Water Situation Report

East Ilsley STW is a 'treat all' site and there are no consented overflows located in the catchment. Therefore, overflow performance for the East Ilsley catchment has not been detailed.

Table 1 below outlines the remediation works undertaken to address infiltration in the catchment, and enhancements to treatment works and/or pumping stations. Please note that this table only refers to work completed in the previous year.

Investigation / remediation type	2020/21	2021/22	2022/23	2023/24	2024/25
CCTV surveys	-	-	-	117m	4,300m
Look and lift surveys	-	1	-	-	-
Sewer lining	-	-	-	-	-
Patch lining	-	-	-	-	-
Manhole sealing / plates / covers and frames replaced	-	-	-	-	-
ATAC unit deployment	-	-	-	-	-

Summary

A review of river level data over 2023/2024 shows a similar pattern being followed compared to previous years. As mentioned previously, East Ilsley STW is a 'treat all' site and there are no consented overflows located in the catchment. Therefore, overflow performance for the East Ilsley catchment has not been detailed. Moreover, there is a slight drop in groundwater levels for 2024/2025 compared to the groundwater levels of the previous year, but the effect of this decrease will be analysed when 2025 spill data is published.

In the reporting year, we have undertaken CCTV survey of our sewers network, covering some 4,300 metres. These CCTV surveys help us monitor the condition of sewer network as well as identifying potential defects that could allow groundwater infiltration.

Hambleton

Hambleton is located on the Hamble Brook and River Thames in Buckinghamshire, approximately 10km southwest of High Wycombe.

This addendum provides an update on work undertaken in the hydrological year October 2024 to September 2025 for the Hambleton sewerage system. The key points covered include:

- Hydrological conditions
- Performance of the sewerage system
- Mitigation / remedial measures progressed over the last year

Figures 1 to 5 illustrate the relationship between rainfall and spills at CSOs. As can be seen the decrease in rainfall from 2023/24 into 2024/25, displayed in Figure 1; represents a correlation to decreased groundwater and river levels observed in Figure 2 and 3, and decreased number and duration of spills at the CSOs shown in Figure 5.

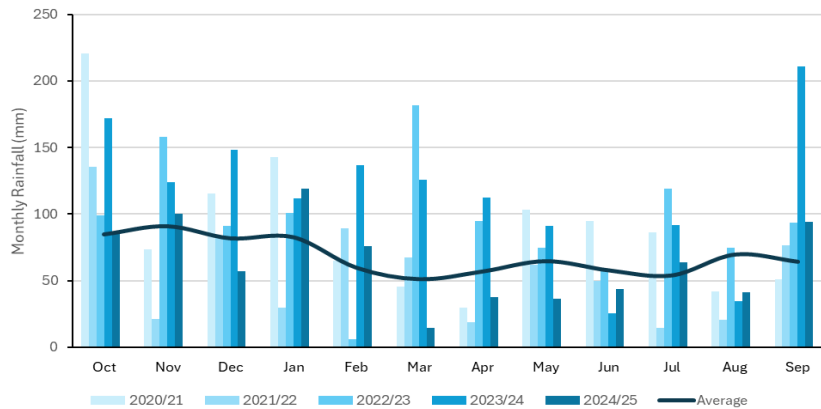


Figure 1: Monthly rainfall data 2020/21 to 2024/25

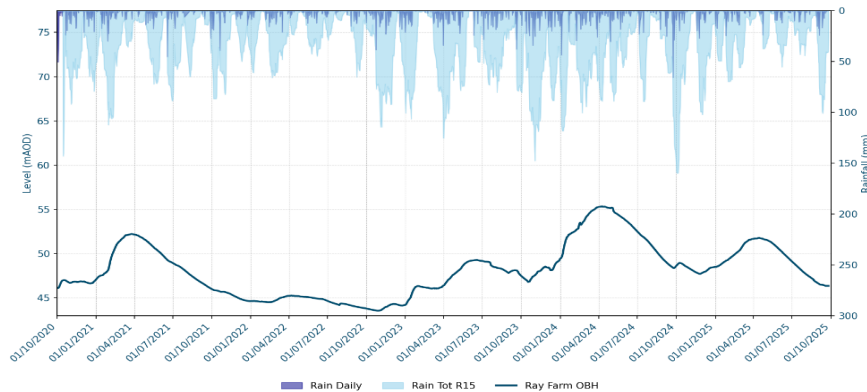


Figure 2: River Level data for Ray Farm OBH

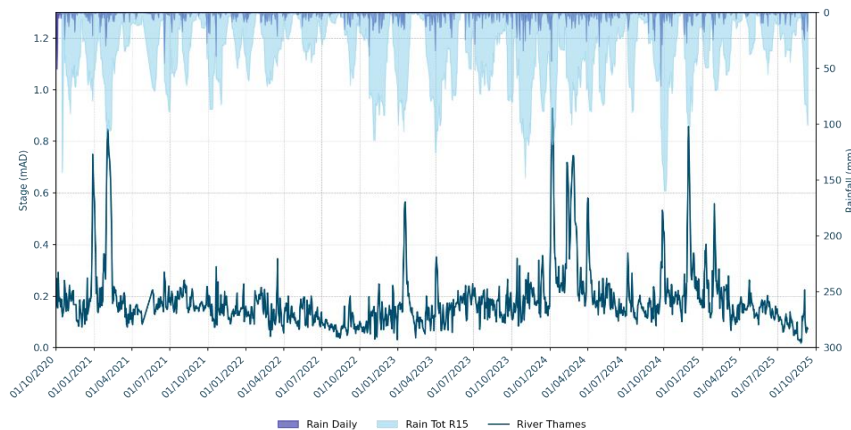


Figure 3: River Level data for River Thames, Shiplake Lock

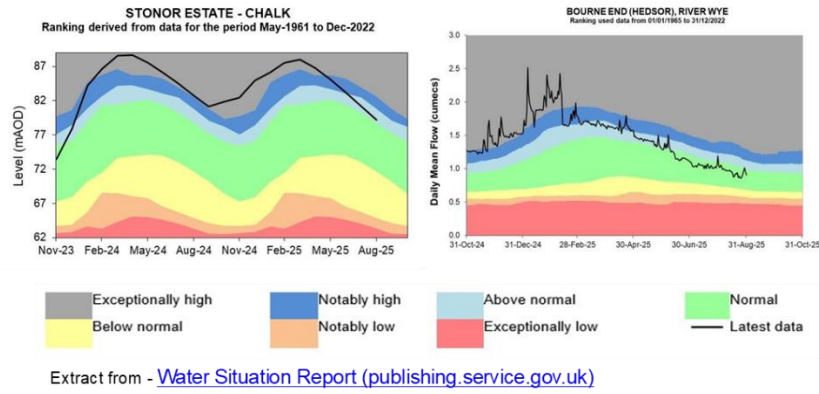


Figure 4: Ground Water Situation Report

Table 1 below details the last 2 years performance of overflows in the catchment. To assess EDM performance and its relation to groundwater infiltration, a review of the month-on-month spill performance in 2023 and 2024 against the monthly total rainfall values has been undertaken, as observed in Figure 5.

Event Duration Monitoring	2023		2024	
Overflow	Annual Spills	Duration (hours)	Annual Spills	Duration (hours)
Hambleden STW	20	334	8	105

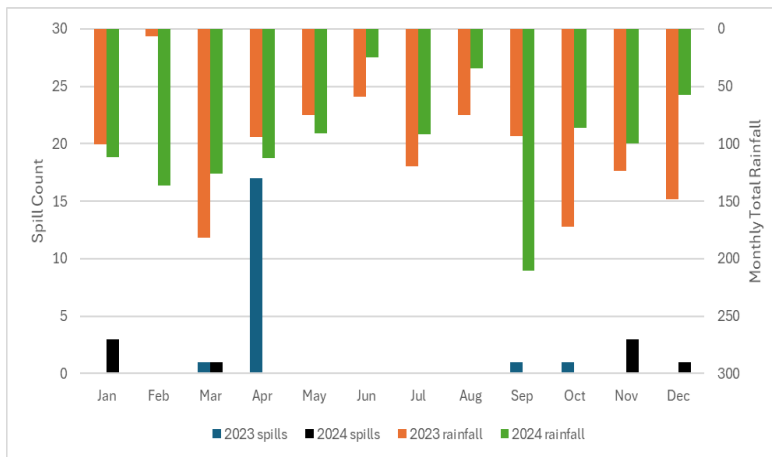


Figure 5: Monthly rainfall data versus monthly spill count for 2023 and 2024 – Hambleden STW

Table 2 below outlines the remediation works undertaken to address infiltration in the catchment, and enhancements to treatment works and/or pumping stations. Please note that this table only refers to work completed in the previous year.

Investigation / remediation type	2020/21	2021/22	2022/23	2023/24	2024/25
CCTV surveys	-	1,700m	93m	1,500m	2,000m X 2
Look and lift surveys	-	-	20	15	-
Sewer lining	-	1,500m	300m	-	550m
Patch lining	-	-	-	-	-
Manhole sealing / plates / covers and frames replaced	-	24	-	-	2 sealing plates
ATAC unit deployment	-	-	-	-	-

Summary

A review of river level data over 2023/24 has increased compared to previous years. The number and duration of spills have decreased in 2024 compared to 2023. The lower number of annual spills could be a result of the decreased rainfall in 2024 (seen in Figure 5). Moreover, there is a slight drop in groundwater levels for 2024/2025 compared to the groundwater levels of the previous year, but the effect of this decrease will be analysed when 2025 spill data is published.

In the reporting year, we have undertaken CCTV survey of our sewers network, covering some 4,000 metres in Stratton Audley. These CCTV surveys help us monitor the condition of sewer network as well as identifying potential defects that could allow groundwater infiltration. In conjunction with the CCTV, we have undertaken 550 metres of sewers lined (200m in Hambleton Village and 350m at Mill end SPS) and 2 Manhole sealing plates installed.

Hampstead Norreys

Hampstead Norreys is located in Berkshire, approximately 7 miles north-east of Newbury.

This addendum provides an update on work undertaken in the hydrological year October 2024 to September 2025 for the Hampstead Norreys sewerage system. The key points covered include:

- Hydrological conditions
- Performance of the sewerage system
- Mitigation / remedial measures progressed over the last year

Figures 1 to 5 illustrate the relationship between rainfall and spills at CSOs. As can be seen the decrease in rainfall from 2023/24 into 2024/25, displayed in Figure 1; represents a correlation to decreased groundwater and river levels in Figure 2 & 3, and decreased number and duration of spills at the CSOs in Figure 5.

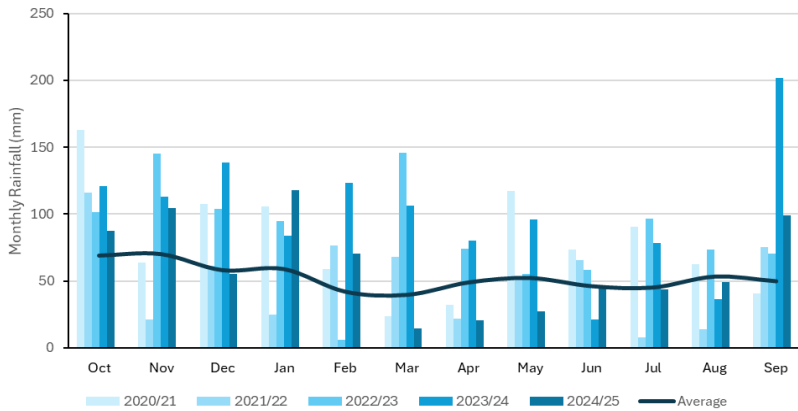


Figure 1: Monthly rainfall data 2020/21 to 2024/25

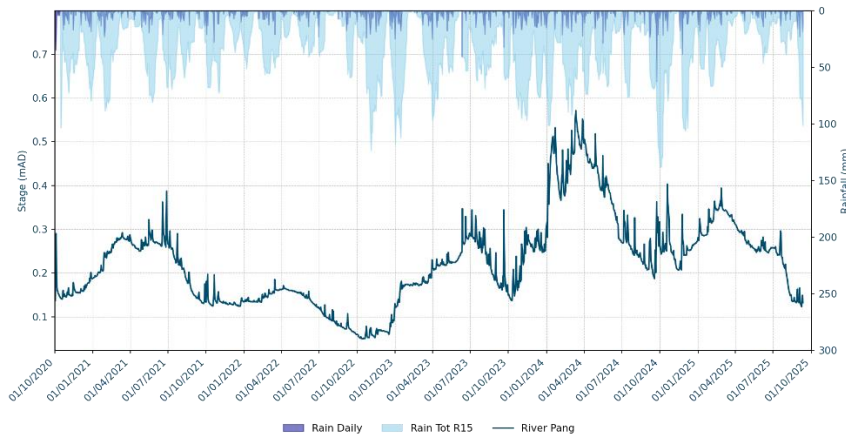


Figure 2: River Level data for River Pang at Frilsham

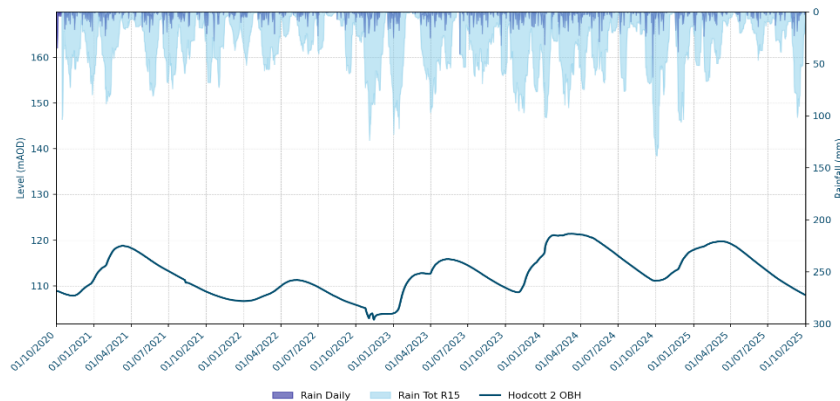


Figure 3: River Level data for Hodcott 2 OBH

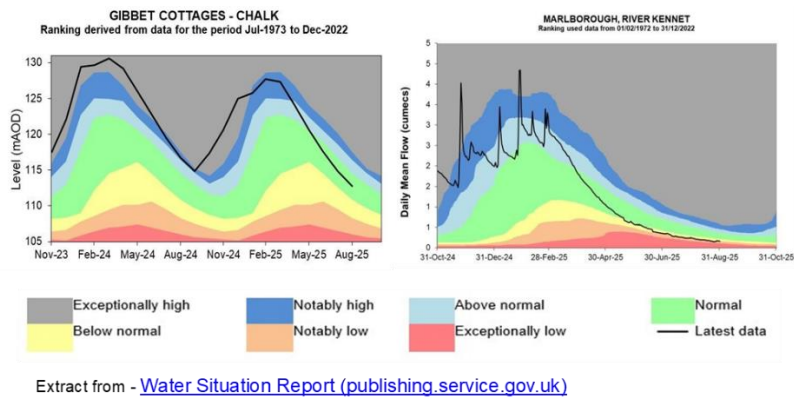


Figure 4: Ground Water Situation Report

Table 1 below details the last 2 years performance of overflows in the catchment. To assess EDM performance and its relation to groundwater infiltration, a review of the month-on-month spill performance in 2023 and 2024 against the monthly total rainfall values has been undertaken, as observed in Figure 5.

Event Duration Monitoring	2023		2024	
Overflow	Annual Spills	Duration (hours)	Annual Spills	Duration (hours)
Hampstead Norreys STW	83	1295.75	55	597.15

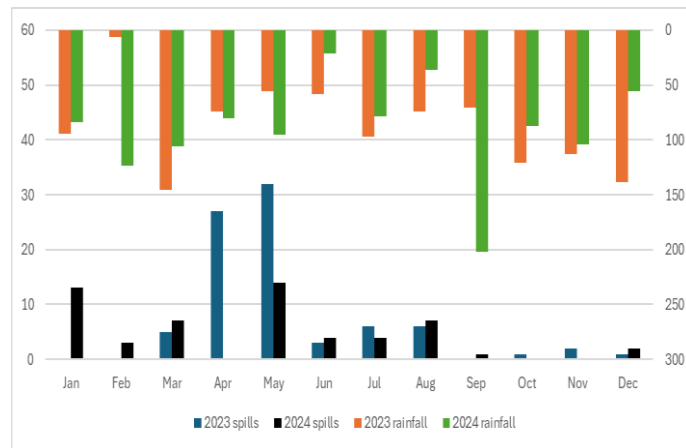


Figure 5: Monthly rainfall data versus monthly spill count for 2023 and 2024 – Hampstead Norreys STW

Table 2 below outlines the remediation works undertaken to address infiltration in the catchment, and enhancements to treatment works and/or pumping stations. Please note that this table only refers to work completed in the previous year.

Investigation / remediation type	2020/21	2021/22	2022/23	2023/24	2024/25
CCTV surveys	-	-	-	1,044m	1,700m
Look and lift surveys	-	-	-	-	-
Sewer lining	-	50m	-	80m	1,700m
Patch lining	-	-	-	-	-
Manhole sealing / plates / covers and frames replaced	-	10	1	24	-
ATAC unit deployment	-	-	-	-	-

Summary

A review of river level data over 2023/24 has increased compared to previous years. The number and duration of spills have decreased in 2024 compared to 2023. The spills have mostly occurred during the hotter months (May to August). The lower number of annual spills could be a result of the decreased rainfall in 2024 (seen in Figure 5). Moreover, there is a slight drop in groundwater levels for 2024/2025 compared to the groundwater levels of the previous year, but the effect of this decrease will be analysed when 2025 spill data is published.

In the reporting year, we have undertaken CCTV survey of our sewers network, covering some 1,700 metres. These CCTV surveys help us monitor the condition of sewer network as well as identifying potential defects that could allow groundwater infiltration. In conjunction with the CCTV, we have undertaken 1,700 metres of sewers lined.

It should be noted that there are 421m of sewers outstanding from this scheme that require CCTV surveys and lining as well as 4 manholes that require sealing. This was due to either high flows in the sewers, the requirement for complex traffic management or access issues. This work is currently being planned but “Lift and Look” surveys are to be carried out to confirm that flows are low enough to complete the works.

Little Marlow

Little Marlow is located in Buckinghamshire, approximately 7 miles north of Maidenhead

This addendum provides an update on work undertaken in the hydrological year October 2024 to September 2025 for the Little Marlow sewerage system. The key points covered include:

- Hydrological conditions
- Performance of the sewerage system
- Mitigation / remedial measures progressed over the last year

Figures 1 to 5 illustrate the relationship between rainfall and spills at CSOs. The decrease in rainfall from 2023/24 into 2024/25, represented in Figure 1, correlates to slightly decreased groundwater and river levels observed in Figure 2, 3 & 4. There were fewer and a shorter duration of spills at the CSOs shown in Figure 5.

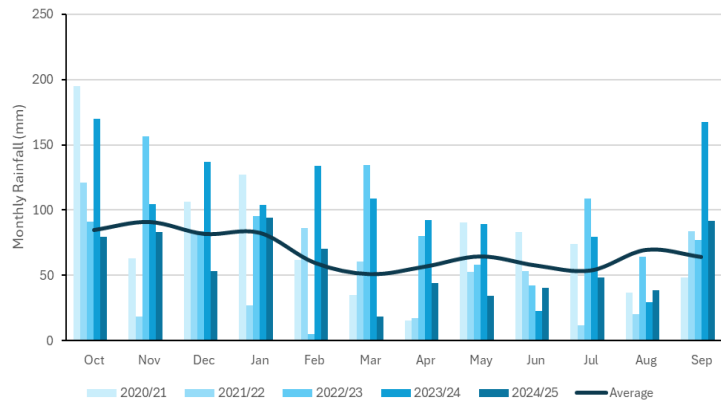


Figure 1: Monthly rainfall data 2020/21 to 2024/25

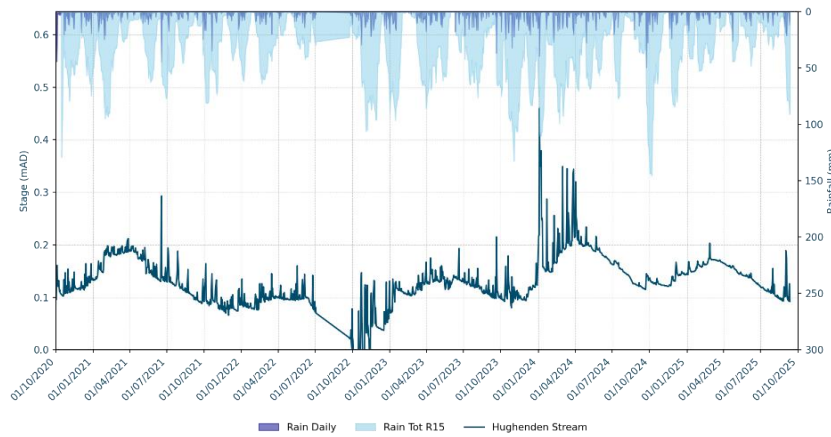


Figure 2: River Level data for Hughenden Stream, Wycombe Hugh

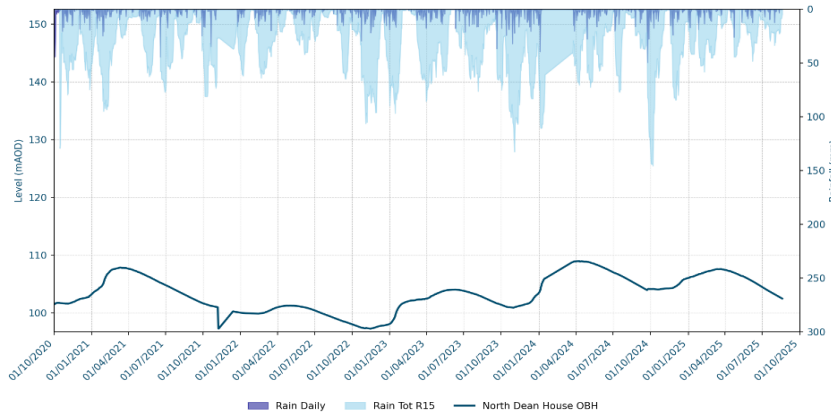


Figure 3: River Level data for North Dean House OBH

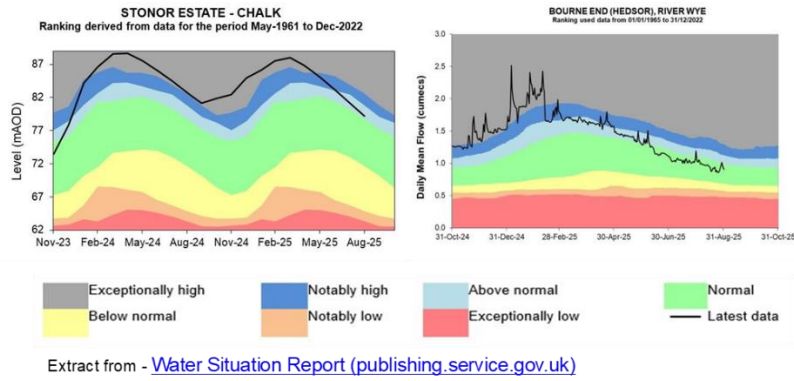


Figure 4: Ground Water situation Report

Table 1 below details the last 2 years performance of overflows in the catchment. To assess EDM performance and its relation to groundwater infiltration, a review of the month-on-month spill performance in 2023 and 2024 against the monthly total rainfall values has been undertaken, as observed in Figure 5.

Event Duration Monitoring	2023		2024	
Overflow	Annual Spills	Duration (hours)	Annual Spills	Duration (hours)
Little Marlow STW	0	0	9	59.30

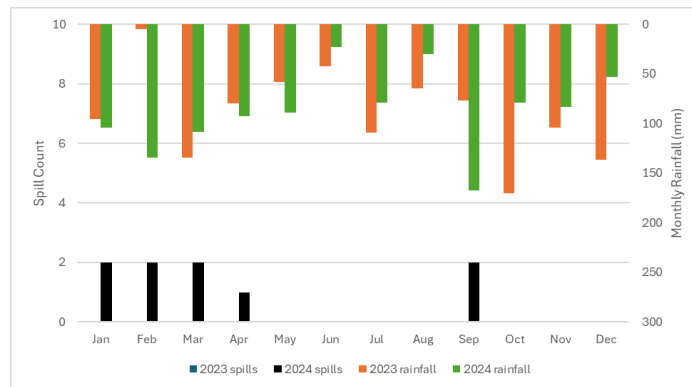


Figure 5: Monthly rainfall data versus monthly spill count for 2023 and 2024 – Little Marlow STW

Table 2 below outlines the remediation works undertaken to address infiltration in the catchment, and enhancements to treatment works and/or pumping stations. Please note that this table only refers to work completed in the previous year.

Investigation / remediation type	2020/21	2021/22	2022/23	2023/24	2024/25
CCTV surveys	-	432m	-	-	1,800m
Look and lift surveys	-	-	-	-	-
Sewer lining	-	139m	-	-	-
Patch lining	-	10	-	-	0
Manhole sealing / plates / covers and frames replaced	-	-	-	-	15
ATAC unit deployment	-	-	-	-	-

Summary

A review of river level data over 2023/24 has increased compared to previous years. The number and duration of spills have increased in 2024 compared to 2023. The higher number of annual spills and river levels could be a result of the increased rainfall in 2024 (seen in Figure 5). Moreover, there is a slight drop in groundwater levels for 2024/2025 compared to the groundwater levels of the previous year, but the effect of this decrease will be analysed when 2025 spill data is published.

In the reporting year, we have undertaken CCTV survey of our sewers network, covering some 1,800 metres. These CCTV surveys help us monitor the condition of sewer network as well as identifying potential defects that could allow groundwater infiltration, and for Little Marlow, they led to no further works required. Moreover, 15 Manhole sealing / plates / covers and frames were replaced.

Princes Risborough

Princes Risborough is located on the Horsenden Stream, in Buckinghamshire, approximately 12km south of Aylesbury.

This addendum provides an update on work undertaken in the hydrological year October 2024 to September 2025 for the Princes Risborough sewerage system. The key points covered include:

- Hydrological conditions
- Performance of the sewerage system
- Mitigation / remedial measures progressed over the last year

Figures 1 to 7 illustrate the relationship between rainfall and spills at CSOs. Observing Figure 1, rainfall in 2024/25 reduced, correlating to slightly decreased groundwater and river levels, displayed in Figures 2 to 5. There are fewer recorded spills in 2025 compared to 2024 observing Figure 7.

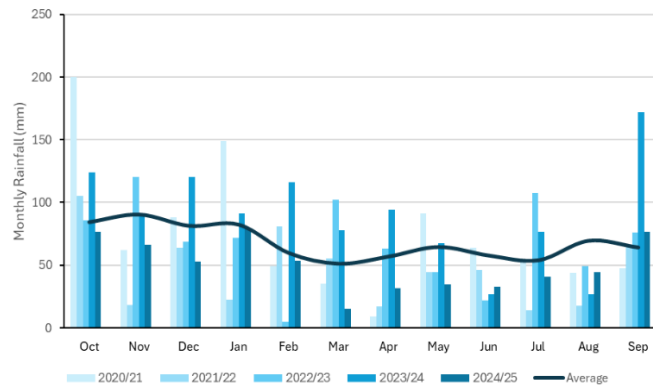


Figure 1: Monthly rainfall data 2020/21 to 2024/25

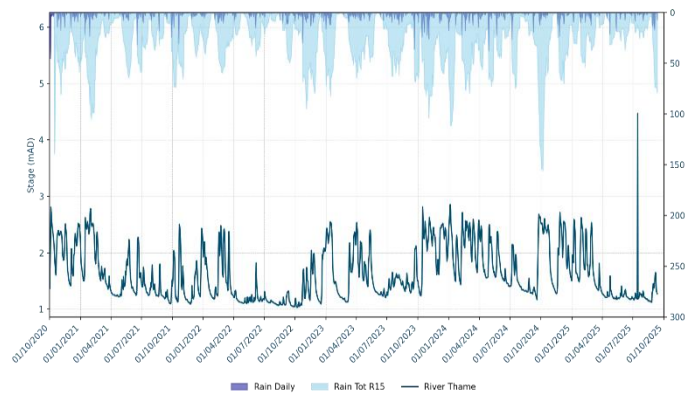


Figure 2: River Level data for Thame, Thame Bridge

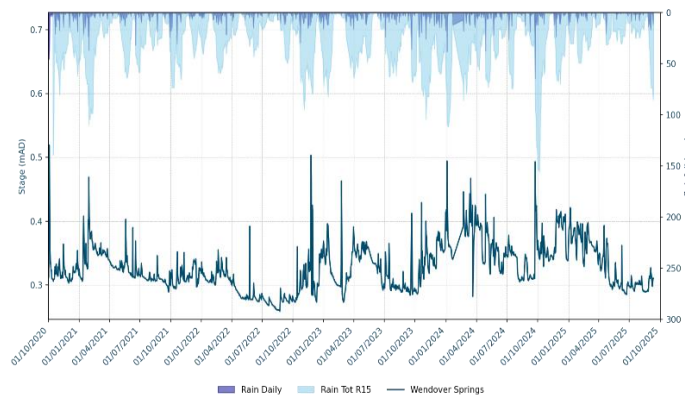


Figure 3: – River Level data for Wendover Springs, Weston Turville

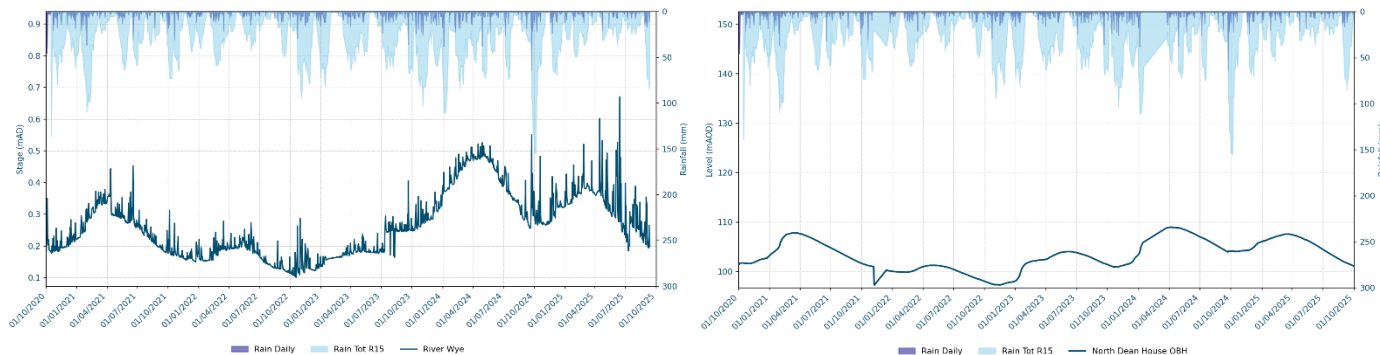
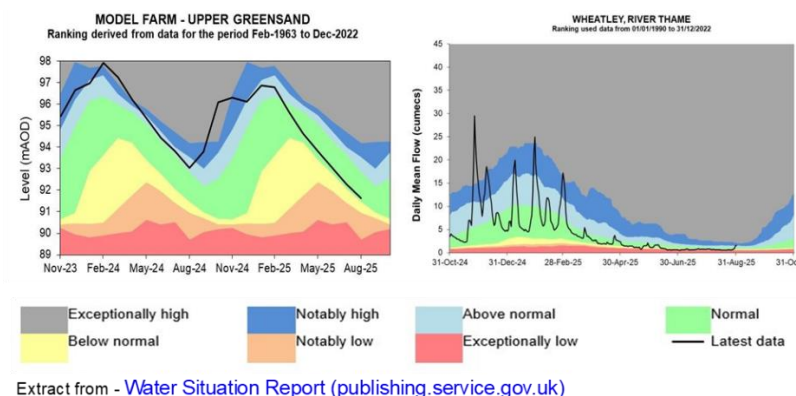


Figure 4: River Level data for River Wye, Wycombe Wye / Figure 5: River Level data for North Dean House OBH



Extract from - [Water Situation Report \(publishing.service.gov.uk\)](https://publishing.service.gov.uk)

Figure 6: Ground Water situation Reports

Table 1 below details the last 2 years performance of overflows in the catchment. To assess EDM performance and its relation to groundwater infiltration, a review of the month-on-month spill performance in 2023 and 2024 against the monthly total rainfall values has been undertaken, as observed in Figure 7.

Event Duration Monitoring	2023		2024	
Overflow	Annual Spills	Duration (hours)	Annual Spills	Duration (hours)
Princes Risborough STW	14	119.75	13	19

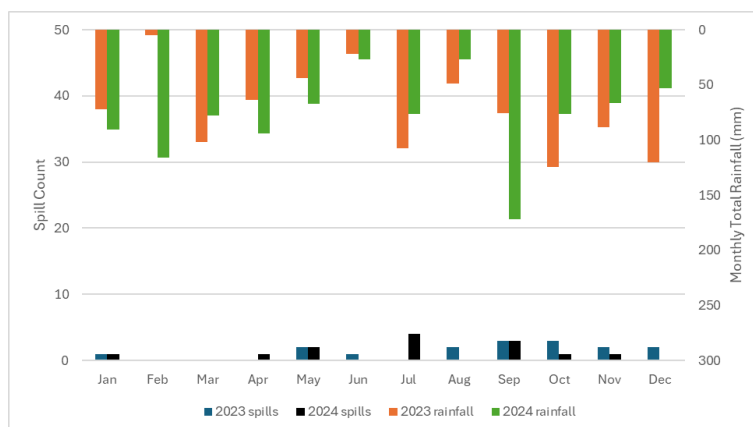


Figure 7: Monthly rainfall data versus monthly spill count for 2023 and 2024 – Princes Risborough STW

Table 2 below outlines the remediation works undertaken to address infiltration in the catchment, and enhancements to treatment works and/or pumping stations. Please note that this table only refers to work completed in the previous year.

Investigation / remediation type	2020/21	2021/22	2022/23	2023/24	2024/25
CCTV surveys	-	-	-	-	1,500m
Look and lift surveys	-	-	-	-	1
Sewer lining	-	-	-	-	51m
Patch lining	-	-	-	-	-
Manhole sealing / plates / covers and frames replaced	-	-	-	-	2
ATAC unit deployment	-	-	-	-	-

Summary

A review of river level data over 2023/2024 shows a similar pattern being followed compared to previous years. The average rainfall in 2024 has increased compared to 2023 (see Figure 7). The lower number of annual spills could be a result of the river levels not increasing. Moreover, groundwater levels for 2024/2025 have stayed relatively similar to the groundwater levels of the previous year, but the effect of this will be analysed when 2025 spill data is published.

In the reporting year, we have undertaken CCTV survey of our sewers network, covering some 1,500 metres. These CCTV surveys help us monitor the condition of sewer network as well as identifying potential defects that could allow groundwater infiltration. In conjunction with the CCTV, we have undertaken Lift and Look surveys in Longwick Village, this type of visual inspection allows for quicker and more extensive checks on performance of the system but lacks the point source observations that CCTV can yield. Moreover, we have installed 51 metres of sewer lining, and two manhole sealing / plates / covers and frames were replaced.

South Moreton

South Moreton is located in South Oxfordshire, approximately 3 miles east of Didcot and 4 miles west of Wallingford.

This addendum provides an update on work undertaken in the hydrological year October 2024 to September 2025 for the South Moreton sewerage system. The key points covered include:

- Hydrological conditions
- Performance of the sewerage system
- Mitigation / remedial measures progressed over the last year

Figures 1 and 2 illustrate the relationship between rainfall and spills at CSOs. Decreased rainfall is 2024/25 observed in Figure 1, however there is not a significant decrease in frequency and duration of CSO spills recorded in Figure 2. There is no river or groundwater level data available for South Moreton.

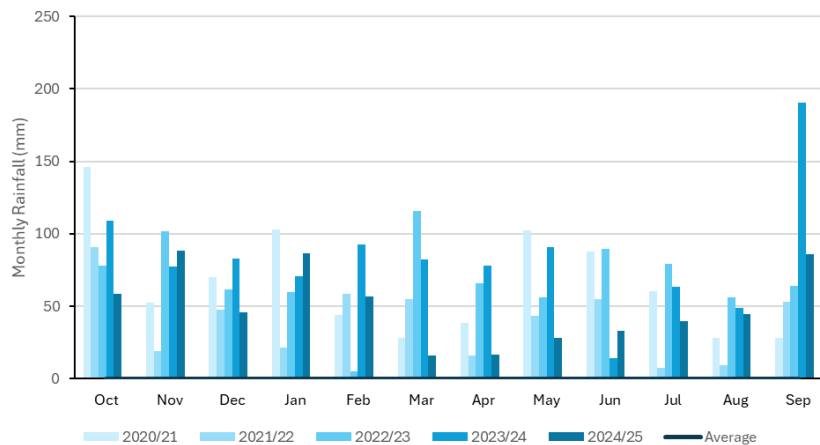


Figure 1: Monthly rainfall data 2020/21 to 2024/25

Table 1 below details the last 2 years performance of overflows in the catchment. To assess EDM performance and its relation to groundwater infiltration, a review of the month-on-month spill performance in 2023 and 2024 against the monthly total rainfall values has been undertaken, as observed in Figure 2.

Event Duration Monitoring	2023		2024	
	Annual Spills	Duration (hours)	Annual Spills	Duration (hours)
South Moreton STW	162	2568	261	5353

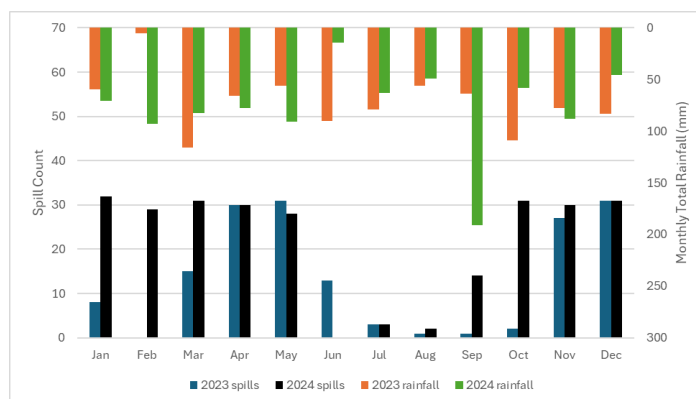


Figure 2: Monthly rainfall data versus monthly spill count for 2023 and 2024 – South Moreton STW

Table 2 below outlines the remediation works undertaken to address infiltration in the catchment, and enhancements to treatment works and/or pumping stations. Please note that this table only refers to work completed in the previous year.

Investigation / remediation type	2020/21	2021/22	2022/23	2023/24	2024/25
CCTV surveys	-	-	-	340m	-
Look and lift surveys	-	-	-	-	-
Sewer lining	-	-	-	-	-
Patch lining	-	-	-	-	-
Manhole sealing / plates / covers and frames replaced	-	-	-	-	-
ATAC unit deployment	-	-	-	-	-

Summary

The number and duration of spills have increased in 2024 compared to 2023. The average rainfall has also increased between 2024 and 2023. Rainfall directly correlates to spill events. However, there is insufficient evidence to support the validity of this correlation, as the wettest month (September), hasn't got the highest number of spills (See Figure 2)

Watlington is located in Oxfordshire, approximately 13 miles north of Reading.

This addendum provides an update on work undertaken in the hydrological year October 2024 to September 2025 for the Watlington sewerage system. The key points covered include:

- Hydrological conditions
- Performance of the sewerage system
- Mitigation / remedial measures progressed over the last year

Figures 1 to 4 illustrate the relationship between rainfall and spills at CSOs. There is a decrease in rainfall from 2023/24 to 2024/25 observed in Figure 1. Figure 2 displays a marginal reduction in river level, however there are fewer and shorter duration of spills at the CSOs shown in Figure 4.

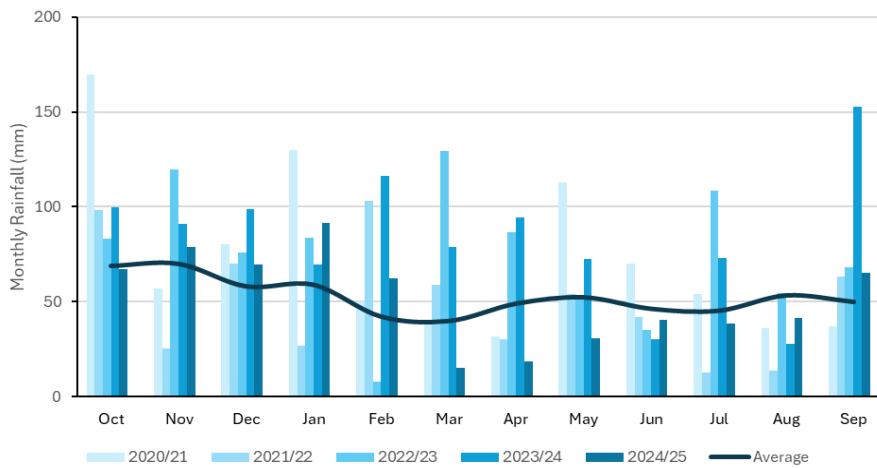


Figure 1: Monthly rainfall data 2020/21 to 2024/25

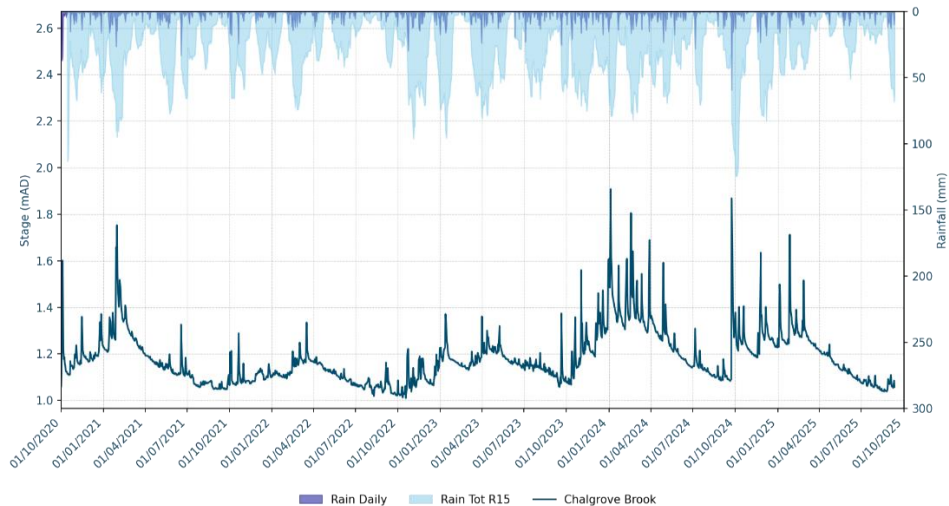


Figure 2: River Level data for Chalgrove Brook, Chalgrove

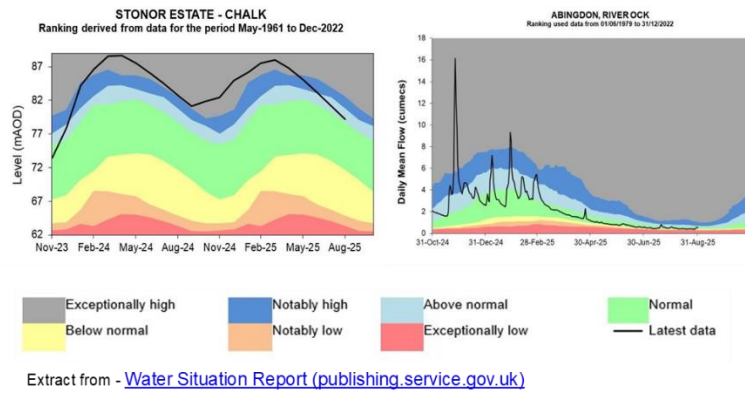


Figure 3: Ground Water situation Reports

Table 1 below details the last 2 years performance of overflows in the catchment. To assess EDM performance and its relation to groundwater infiltration, a review of the month-on-month spill performance in 2023 and 2024 against the monthly total rainfall values has been undertaken, as observed in Figure 4.

Event Duration Monitoring	2023		2024	
Overflow	Annual Spills	Duration (hours)	Annual Spills	Duration (hours)
Watlington STW	8	17.25	90	703.45

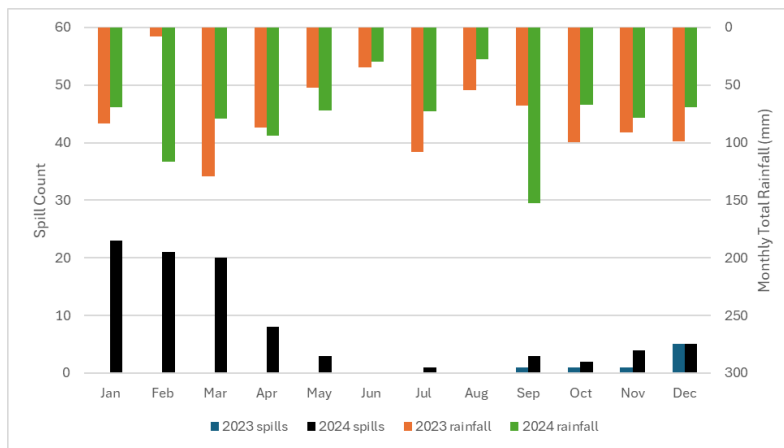


Figure 4: Monthly rainfall data versus monthly spill count for 2023 and 2024 – Watlington STW

Table 2 below outlines the remediation works undertaken to address infiltration in the catchment, and enhancements to treatment works and/or pumping stations. Please note that this table only refers to work completed in the previous year.

Investigation / remediation type	2020/21	2021/22	2022/23	2023/24	2024/25
CCTV surveys	-	-	340m	-	1,000m
Look and lift surveys	-	-	4	-	1
Sewer lining	-	-	-	-	0
Patch lining	-	-	-	-	15m
Manhole sealing / plates / covers and frames replaced	-	-	-	2 manholes – outstanding from 22/23	3
ATAC unit deployment	-	-	-	-	-

Summary

A review of river level data over 2023/24 has increased compared to previous years. The number and duration of spills have increased in 2024 compared to 2023. The higher number of annual spills and river levels could be a result of the increased rainfall in 2024 (seen in Figure 4). Moreover, there is a slight drop in groundwater levels for 2024/2025 compared to the groundwater levels of the previous year, but the effect of this decrease will be analysed when 2025 spill data is published.

In the reporting year, we have undertaken CCTV survey of our sewers network, covering some 1,000 metres. These CCTV surveys help us monitor the condition of sewer network as well as identifying potential defects that could allow groundwater infiltration. In conjunction with the CCTV, we have undertaken Lift and Look surveys in Cuxham Village, this type of visual inspection allows for quicker and more extensive checks on performance of the system but lacks the point source observations that CCTV can yield. Moreover, 15 metres of sewer lining and three Manhole sealing were installed.

Worminghall

Worminghall is located in Buckinghamshire, approximately 5 miles west of Thame and 10 miles east of Oxford.

This addendum provides an update on work undertaken in the hydrological year October 2024 to September 2025 for the Worminghall sewerage system. The key points covered include:

- Hydrological conditions
- Performance of the sewerage system
- Mitigation / remedial measures progressed over the last year

Figures 1 and 2 illustrate the relationship between rainfall and spills at CSOs. As can be seen the decrease in rainfall from 2023/24 into 2024/25, observed in Figure 1, represents a correlation to fewer and a shorter duration of spills at the CSOs shown in Figure 2. There is no river or groundwater level data available.

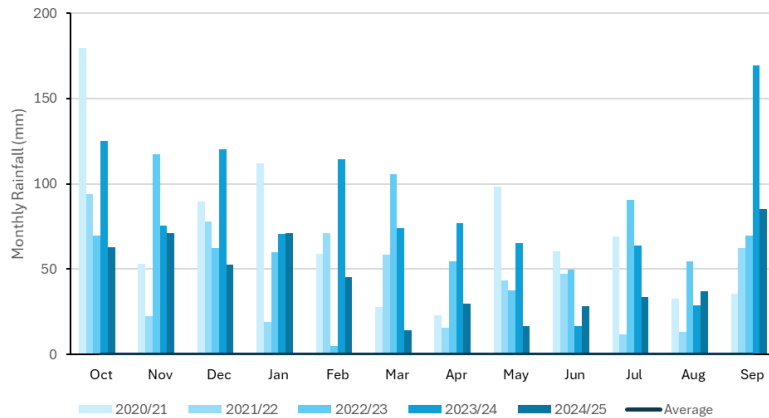


Figure 1: Monthly rainfall data 2020/21 to 2024/25

Table 1 below details the last 2 years performance of overflows in the catchment. To assess EDM performance and its relation to groundwater infiltration, a review of the month-on-month spill performance in 2023 and 2024 against the monthly total rainfall values has been undertaken, as observed in Figure 2.

Event Duration Monitoring	2023		2024	
Overflow	Annual Spills	Duration (hours)	Annual Spills	Duration (hours)
Worminghall STW	52	509	93	1215.15

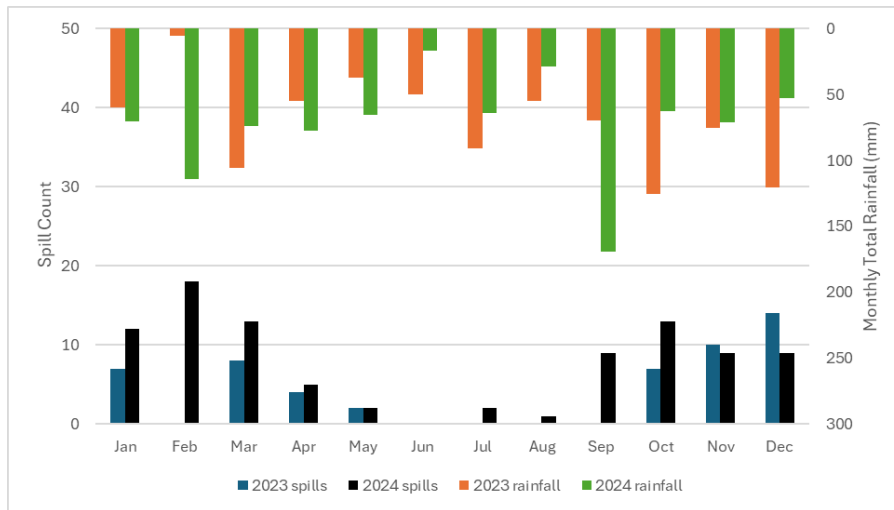


Figure 2: Monthly rainfall data versus monthly spill count for 2023 and 2024 – Worminghall STW

Table 2 below outlines the remediation works undertaken to address infiltration in the catchment, and enhancements to treatment works and/or pumping stations. Please note that this table only refers to work completed in the previous year.

Investigation / remediation type	2020/21	2021/22	2022/23	2023/24	2024/25
CCTV surveys	-	-	-	-	350m
Look and lift surveys	-	-	-	-	1
Sewer lining	-	-	-	-	175m
Patch lining	-	-	-	-	0
Manhole sealing / plates / covers and frames replaced	-	-	-	-	2
ATAC unit deployment	-	-	-	-	-

Summary

The number and duration of spills have increased in 2024 compared to 2023. The average rainfall has also increased between 2024 and 2023. Rainfall directly correlates to spill events. However, there is insufficient evidence to support the validity of this correlation, as the wettest month (September), hasn't got the highest number of spills (See Figure 2)

In the reporting year, we have undertaken CCTV survey of our sewers network, covering some 350metres. These CCTV surveys help us monitor the condition of sewer network as well as identifying potential defects that could allow groundwater infiltration. In conjunction with the CCTV, we have undertaken Lift and Look surveys in Ickford Village, this type of visual inspection allows for quicker and more extensive checks on performance of the system but lacks the point source observations that CCTV can yield. Moreover, 175 metres of sewer lining and two manhole sealing plates were installed.

