

The Wessex area
**Drainage and wastewater
management plan**



Wessex Water
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Drainage and wastewater management plan

This drainage and wastewater management plan (DWMP) for the Wessex area presents a step change in the level of investment to ensure we maintain an effective sewerage system. The DWMP helps us to increase the resilience of our infrastructure, support our customers' health and wellbeing as well as enhance the environment.

Water companies prepare DWMPs on a five-yearly cycle in line with guidance provided by the government (Defra), the Environment Agency, our environmental regulator, and Ofwat, our financial regulator.

This is the first time we have produced a DWMP. We published our draft in June 2022 and following a three month consultation period, we listened to our customers and stakeholders to produce this final plan.

Our final DWMP will feed into our investment programme for 2025 to 2030 and will establish the approach for achieving our outcomes and aims for the next 25 years, as set out in our strategic direction statement.

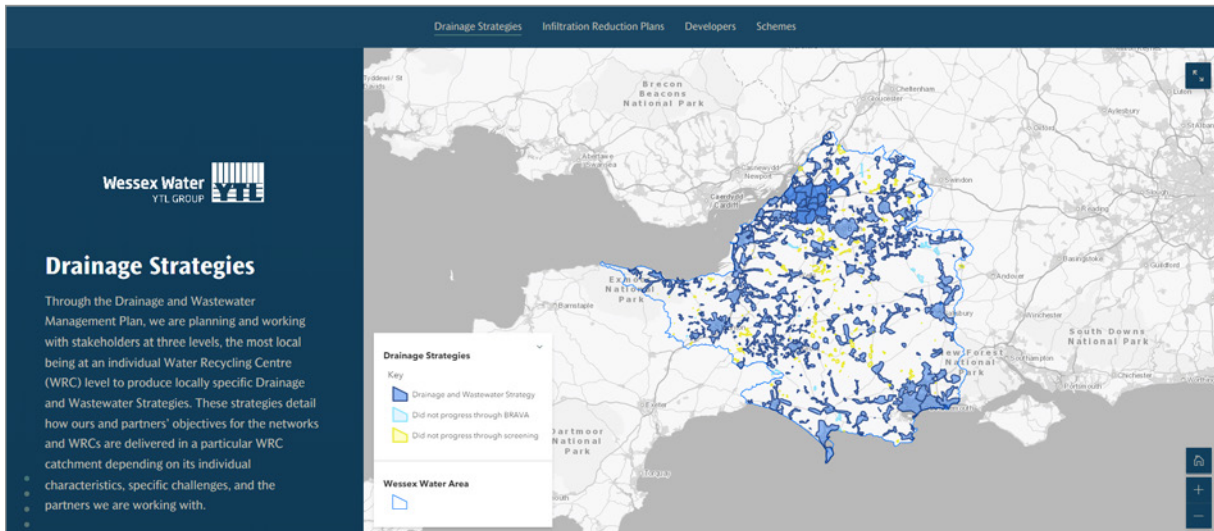
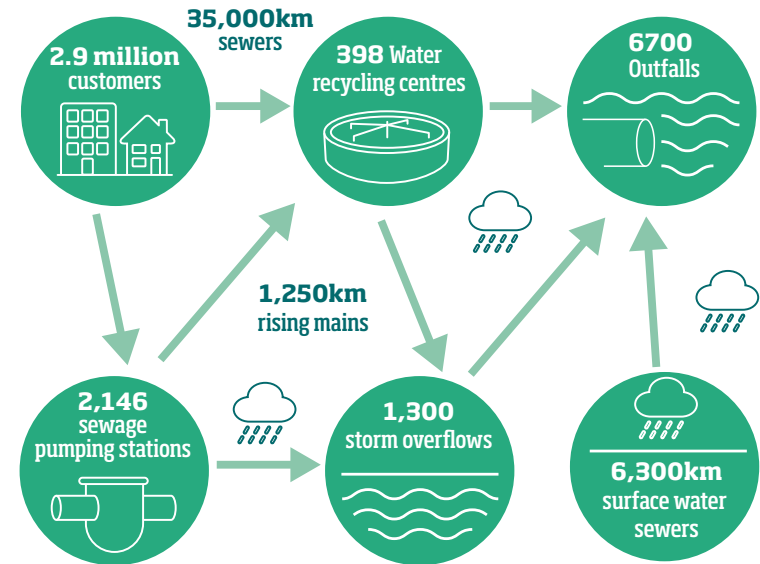
This document is our customer facing report and summarises our DWMP. It outlines why the plan has been developed, what it represents, how it has been produced and what we are proposing to deliver in the near, medium and long-term to maintain levels of service.

Our DWMP has more detailed information which can be found on our website. It includes:

- a customer-facing document
- a non-technical summary
- a technical summary
- the plan, with links to technical appendices.

Our DWMP website hosts these reports and a geospatial portal containing a wealth of information, including storm overflow performance and more than 200 drainage and wastewater strategy summaries that outline our plans for the short, medium and long-term for each of the major towns and cities.

Wessex Water's assets



We have listened to our customers and stakeholders to produce this final plan to achieve affordable outcomes for the next 25 years

Wessex Water's DWMP portal showing local drainage strategies

Why the plan has been developed

We are publishing our drainage and wastewater management plan (DWMP) for the first time to show how we are addressing pressures on our drainage and wastewater systems for current and future risks.

Climate change, population growth, increases in awareness of storm overflows, tightening environmental standards and changes in customer behaviour and expectations are putting increased pressures on the water sector.

We have a privileged status as a provider of essential sewerage services to 2.9 million customers and a protector of the highly sensitive environment within our region.

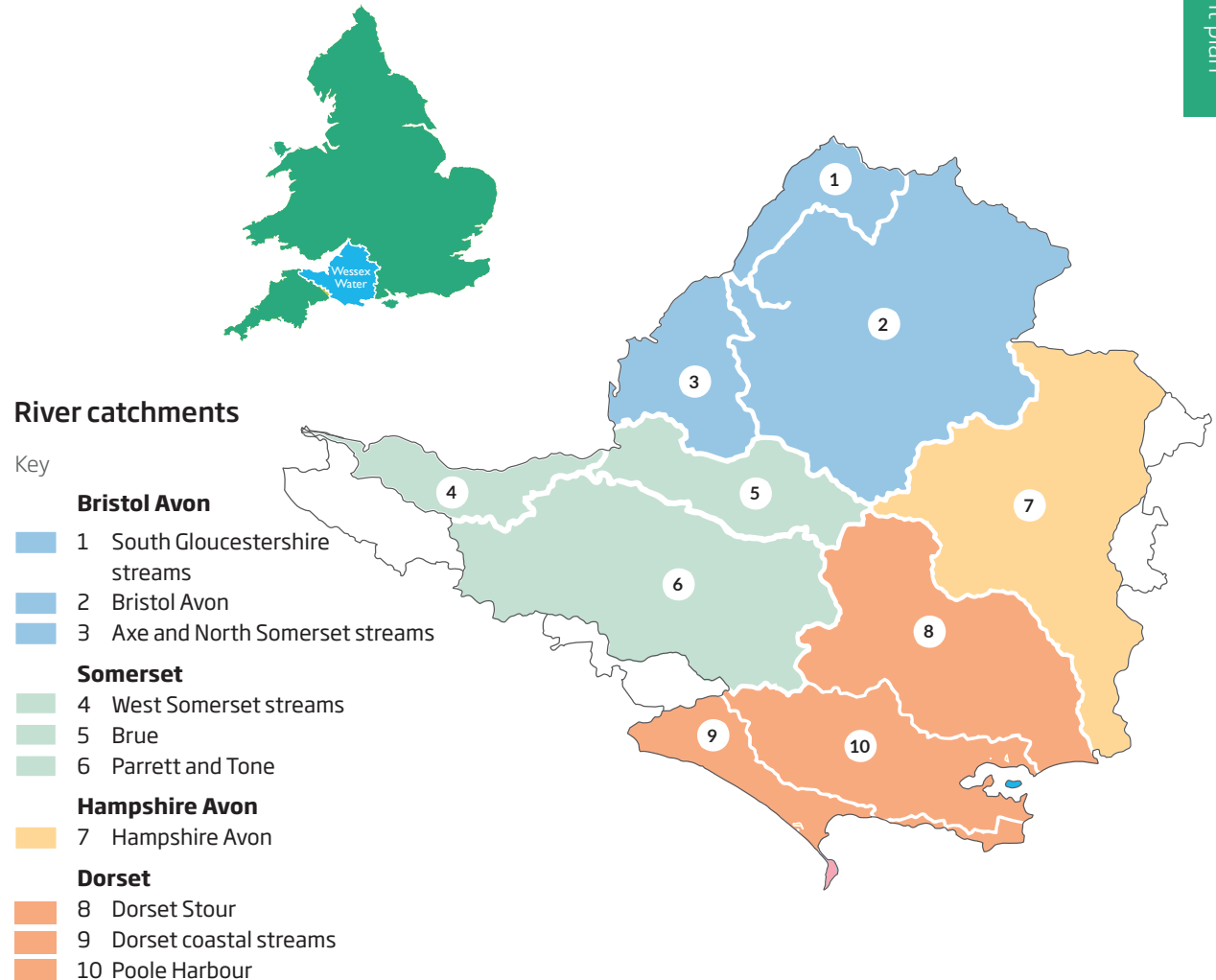
What is a DWMP?

The DWMP framework was developed by the water industry and key stakeholders to provide a consistent approach across water companies in England and Wales for long-term sewerage planning.

Our DWMP identifies how we will extend, improve and maintain a robust and resilient drainage and wastewater system in light of the pressures of climate change, population growth and growing customer expectations.

Our strategic plan sets out the levels of investment required to achieve our outcomes, such as having an effective sewerage system and environmentally good water quality. We have updated our final DWMP to align with the government's policy on storm overflows, which was published in August 2022, and also now includes the significant investment required for new nutrient management.

Our strategic plan sets out the investment required to achieve an effective sewerage system and environmentally good water quality



How we produced the DWMP

Throughout the development of the DWMP, we have been engaging with numerous stakeholders, including customers, regulators (Environment Agency and Ofwat) and flood risk management authorities (RMA), including Lead Local Flood Authorities (LLFA).

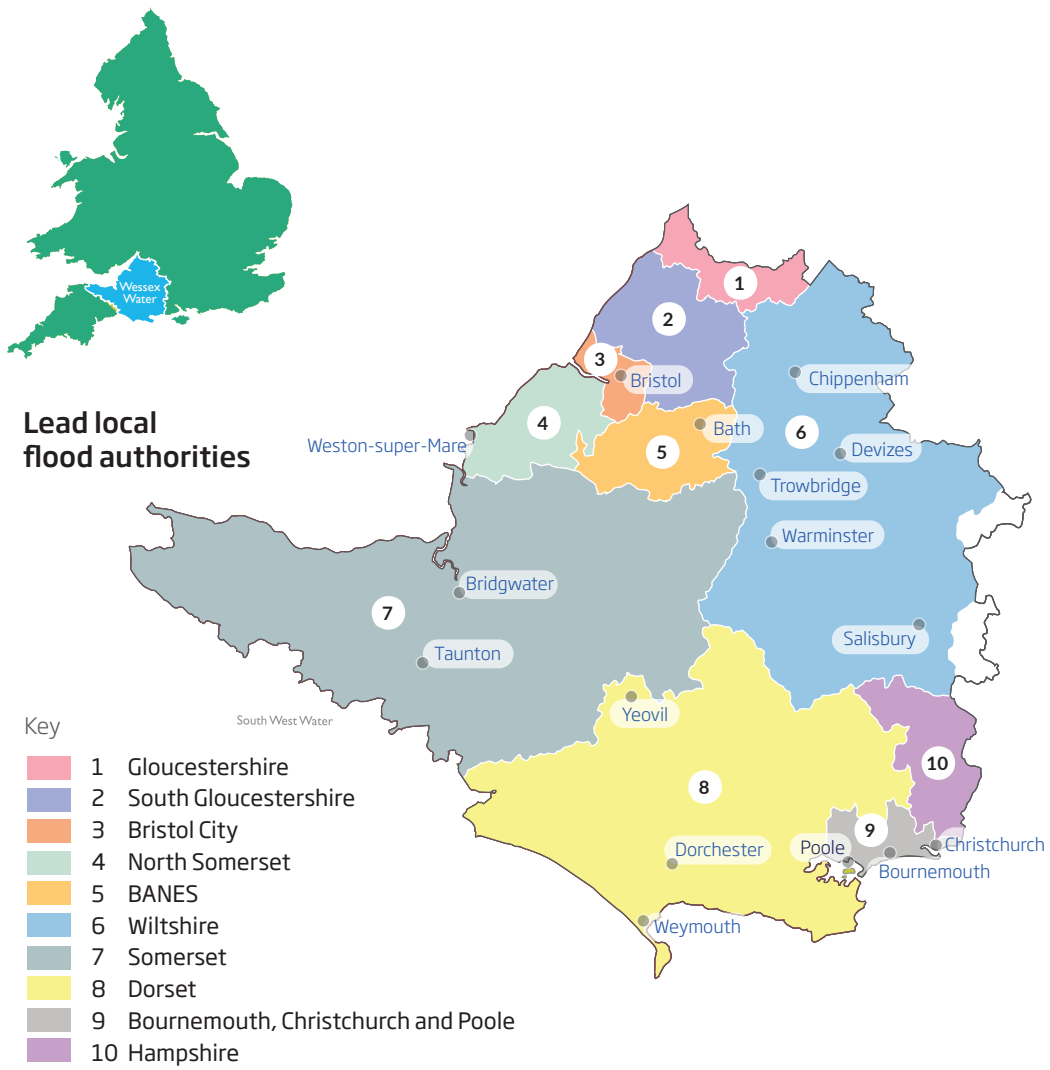
Engagement with other RMAs is essential for DWMPs as drainage responsibilities are complex. We must continue working with our stakeholders to find opportunities for co-creation of water solutions to achieve efficiencies to deliver positive outcomes.

The DWMP sits with and complements the other strategic plans, some of which are shown below.

Alignment with other strategic plans



Engagement with other stakeholders is essential for DWMPs as drainage responsibilities are complex



Planning improvements

We want to focus on nature based and sustainable improvements, such as surface water separation to ensure we deliver wider benefits and maximise best value. To improve the resilience of our drainage and wastewater infrastructure, we have considered the following options.

Wastewater treatment

- Treatment at overflows
- Increase capacity
- Catchment management
- River catchment/ dynamic permitting
- Wastewater transfers

Combined, foul and surface water sewer systems

- Sustainable separation and nature based solutions
- Attenuation
- Upsizing
- Infiltration sealing
- Sewer rehabilitation
- Intelligent network operation / optimisation

Surface water management

- Surface water source control measures
- Surface water pathway measures
- Sustainable separation and nature based solutions
- Mitigation / Property level

Customer management

- Customer incentive
- Domestic and business customer education encouraging that customers do not put food down sinks or flush inappropriate material, like wet-wipes, which cause blockages.

Partnership working

- Nature based solutions
- Making space for water
- Surface water separation
- Contributions to and from partnership schemes
- Alignment of programmes / works

Indirect measures

- Influence policy
- Monitor, investigate and review



Our plan sets out to identify the investment required against indicators, known as planning objectives, that represent the performance of the drainage and wastewater infrastructure. Six planning objectives were agreed to be investigated by all water companies, known as common planning objectives. These are:

<p>Internal sewer flooding risk</p> <p>The number of internal flooding incidents per year from all causes, including hydraulic and blockages.</p>	<p>Sewer collapse risk</p> <p>The number of sewer collapses per year, including bursts to rising mains.</p>	<p>Storm overflow performance</p> <p>Using hydraulic computer model predictions to assess the discharge frequency of storm overflows.</p>	<p>Pollution risk</p> <p>The number of category 1 - 3 pollution incidents per year.</p>	<p>Risk of flooding in a 1 in 50 year storm</p> <p>Percentage of population at risk of sewer flooding in a significant rainfall storm. This is focused on the hydraulic capacity of the network and primarily based on computer model predictions.</p>	<p>Risk of water recycling centre quality compliance failure</p> <p>Capacity of water recycling centres to treat and dispose of sewage in line with the discharge permit sanitary conditions.</p>
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We have worked with key stakeholders to identify additional planning objectives specific to Wessex Water. These are:

<p>Risk of water recycling centre flow compliance failure</p> <p>Capacity of water recycling centres to treat and dispose of sewage in line with the discharge permitted dry weather conditions.</p>	<p>River water quality improved</p> <p>Number of waterbodies improved through improvements at continuous (water recycling centres) and intermittent (storm overflows) discharges.</p>	<p>Partnership working opportunities</p> <p>Number of partnership projects delivered.</p>	<p>Blockage risk</p> <p>The number of blockages per year, in accordance with the Ofwat performance commitment. Blockages cause the majority of our external flooding incidents (gardens and roads).</p>	<p>Groundwater infiltration reduction</p> <p>Weighted length of sewers inspected and improved to make watertight.</p>	<p>Sustainable drainage</p> <p>Outcome focused aimed at disconnecting impermeable area through sustainable drainage schemes.</p>
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Storm overflows – why do they exist?

Storm overflows, are an important part of our drainage system and there are 1,300 in our region

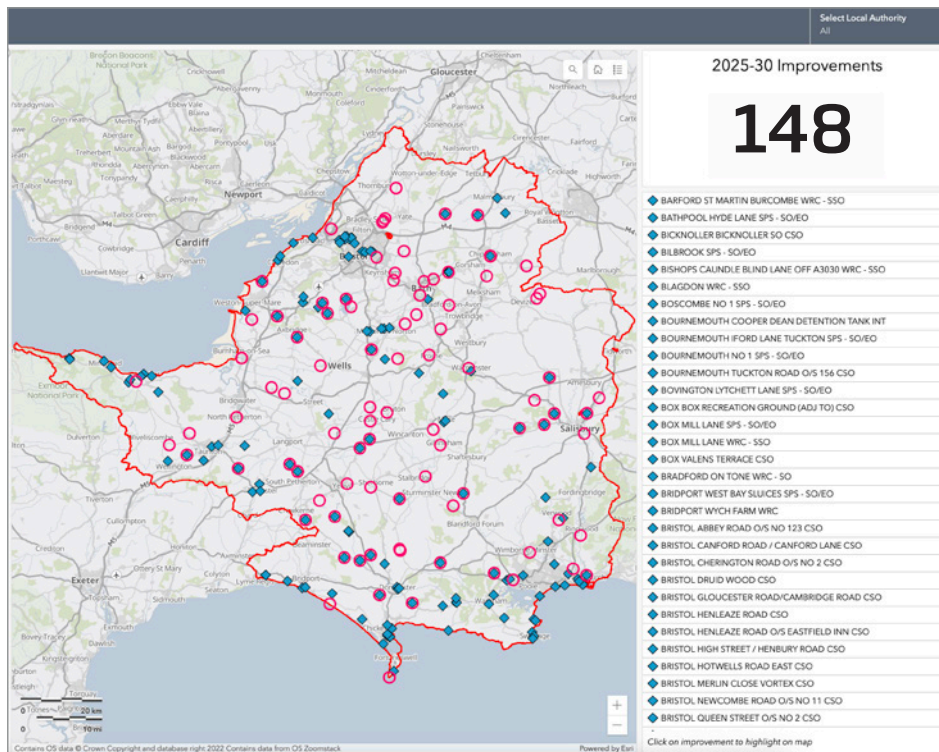
Severe wet weather can increase the flow in a combined sewer which transports both wastewater from homes and businesses and stormwater from roofs and yards. Storm overflows act as relief valves, allowing excess stormwater to be released to rivers or the sea, to protect properties from sewer flooding during heavy rainfall.

Flows from storm overflows into the environment are dilute because of the large volume of rainwater in both the sewer and in the receiving river or sea, will also be swollen by the wet weather.

These overflows are permitted by the Environment Agency but we agree overflows have no place in the 21st century. A far-reaching programme of storm overflow improvements has begun.

Storm overflow performance

One of the main uncertainties in this DWMP is the level of investment required for improving storm overflow performance.



Our core plan contains funding to improve the performance of all storm overflows to discharge less than 10 discharges per year and cause no ecological harm. This is likely to cost £550m every five years until 2050, which could result in an average bill increase in the future of £30 a year for all households. As some customers may struggle with increased bills the plan includes additional affordability help.

We may also need to improve some storm overflows that discharge to high impact or environmentally sensitive waterbodies (eg, bathing water, shellfish waters, chalk streams, designated environmental sites) to a higher standard by 2035.

There is further uncertainty about designated bathing waters as inland bathing waters in waterbodies that are not currently fit to swim in are being promoted. Significant investment may be needed at water recycling centres and storm overflows to improve our assets, but farmers, trade and industry will also need to make improvements. We will need to be adaptive in our investments to be able to change our plans when new information suggests we need to be on a different route to our current plans.

We consider all investment should be based on sound science, so we are collecting more water quality data and using artificial intelligence to innovate and make sure we invest wisely.

Ideally, we would completely eliminate storm overflow discharges, however that would cost many billions of pounds and have a huge carbon footprint. Based on customer research we undertook in 2021, this may not be affordable, especially in the current cost of living crisis.

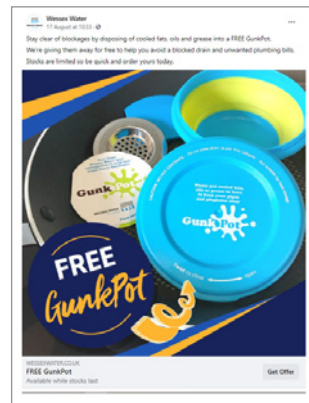
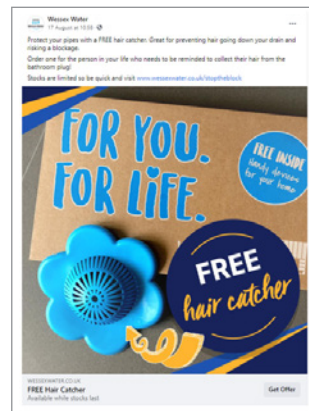
We are collecting more water quality data and using artificial intelligence to innovate and make sure we invest wisely

Working with customers to prevent blockages

Wessex Water clears approximately 13,000 sewer blockages each year, costing over £5m. Data shows that around 75% of these blockages are caused by misuse – predominantly wet wipes and fats entering the sewerage system. Wipes, sanitary products, fats, oils, and greases can build up to form blockages causing sewage to back up and floods from sewers into homes, gardens, and the environment. These flooding incidents can be detrimental to the environment and are extremely distressing for our customers.

Although we will continue to improve our sewerage network, this will not solve the issue of sewer misuse. Addressing the issue 'at source' by encouraging customers to adopt blockage prevention friendly behaviours and dispose of waste appropriately (bin) or not generate the waste in the first place is pivotal to protecting our customers from blockages and flooding incidents.

Our current strategy uses data to identify blockage hotspot areas to focus customer engagement where it can have most impact.



Nature-based solutions

We will provide green and sustainable solutions, where it is beneficial to do so. For example, stormwater separation including advice and support on what can be done at a household and community level to help reduce flooding incidents and storm overflow discharges.

We are also promoting the treatment of groundwater induced overflows. This was done in Hanging Langford, Wiltshire, pictured below. The reedbed wetland improves water quality as well as providing biodiversity.



A reed bed permanently reduced the flood risk for Hanging Langford and improved river water quality. It was only made possible by an innovative and unique permitting arrangement between Wessex Water and the Environment Agency.

Wessex Water now works with Wiltshire Wildlife Trust to manage the reed bed, which provides valuable habitat for various species.



How you changed our draft plan

Thanks to everyone who responded to the consultation on our first draft DWMP which was published in June 2022. Your feedback is much appreciated and has helped improve this final plan. The consultation closed in October 2022.

The main changes between our draft and this final DWMP are:

- Increased investment for **nutrient neutrality**, and other phosphorus-related improvements, which has increased investment by 2030.
- Investment in **storm overflow improvements** by 2030 has been increased to ensure we deliver the government's storm overflow discharge reduction plan.
- Updated the reports and strategies to include more detail of the quantum of known environmental improvements for the period 2025 to 2030.
- More focus on **nature-based solutions**.
- **Adaptive planning** and common reference scenarios have been incorporated, including more detail on climate change sensitivity.
- More detail on **partnership working**.
- Replaced the draft DWMP scenarios with **Best Value** (core) plan and **adaptive plans**.
- Updated the environment report.
- Included initial feedback about **affordability** from new customer engagement.

Our final DWMP

Our DWMP has ambitious plans to protect public health and enhance the environment, creating value for the people we serve. This is so we can continue to give all customers excellent standards of service by providing environmental services that protect's health, improves the environment and provides customers with good value for money, despite pressures of climate change and the tightening of environmental standards.

Our final DWMP includes the following investment by 2030:

- Continue to maintain and operate our assets to high standard.
- Improving our water recycling centres (WRC) by investing £1,400m to ensure we treat the effluent to the tightening standards and accommodate growth.
- Improving the performance of 148 storm overflows by investing more than £550m, using nature based solutions where best value.
- Monitoring the water quality impact of our WRC and storm overflow discharges, which could cost almost £100m.
- Significantly increase investment to reduce groundwater from inundating sewers and manholes.

To achieve the above extra investment (£1.5 billion more than our current spend), bills may need to increase by £100 per average household per year. Our business plan will detail our improved affordability measures to help those unable to afford this increase.

There is significant uncertainty of the long term requirement, so we have ensured our DWMP is flexible by having adaptive plans to allow us to accommodate change.



What next?

This final DWMP will inform our business plan for 2025 to 2030, and beyond. We review our DWMP annually and will fully update the DWMP in a few years, after we receive certainty of the business plan funding for 2025 to 2030.

Our outcomes are to achieve the following by 2050:

- Continue 100% compliance at our water recycle centres.
- Have no serious pollution incidents.
- Halve the number of flooding incidents.
- Achieve the government's storm overflow discharge reduction requirements, as a minimum.

Our medium and long-term plans will deliver the above. We also have an ambition to eliminate storm overflows, but that is currently unaffordable (bill impact of £300 per average household per year) and would have a significant carbon footprint.

Although the DWMP consultation is now closed, we continue to welcome feedback from our customers and stakeholders. Please contact us at DWMP@wessexwater.co.uk





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