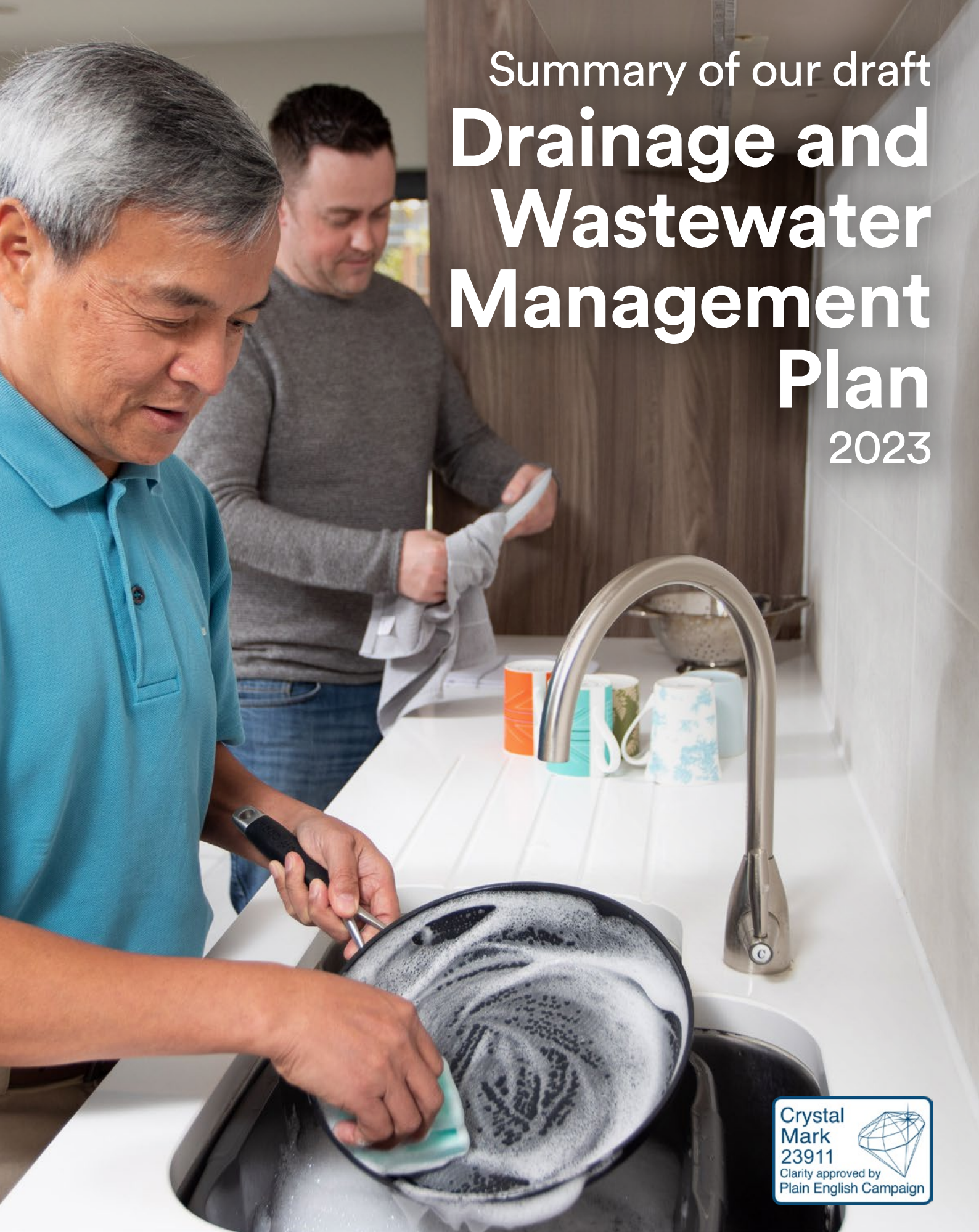


Summary of our draft
**Drainage and
Wastewater
Management
Plan**
2023




Who are we?

We are one of the largest water and wastewater service providers in the UK, and our purpose is to ‘provide great water and more for the North West’. From Crewe to Carlisle, we provide essential water and wastewater services to over seven million people every day. We put customers at the heart of everything we do, looking for innovation and efficiencies in the way we work so that we can continually improve services at a low cost. This strong focus on customer service has allowed us to deliver significant and continuous improvements across the region.



Collecting and treating water 

- 56,000** hectares of land
- 165** reservoirs
- 88** water treatment works

Delivering water to customers 

- 42,000** kilometres of water pipes
- 1.8 billion** litres of clean water every day
- 7.3 million** customers served 24 hours a day

Cleaning and returning wastewater 

- 567** wastewater treatment works
- 7,000** kilometres of rivers
- 1,300** kilometres of coastline

Removing wastewater and generating energy 

- 78,000** kilometres of wastewater pipes
- 198,000** tonnes of sewage sludge every year
- 35** renewable energy facilities



Our changing surroundings

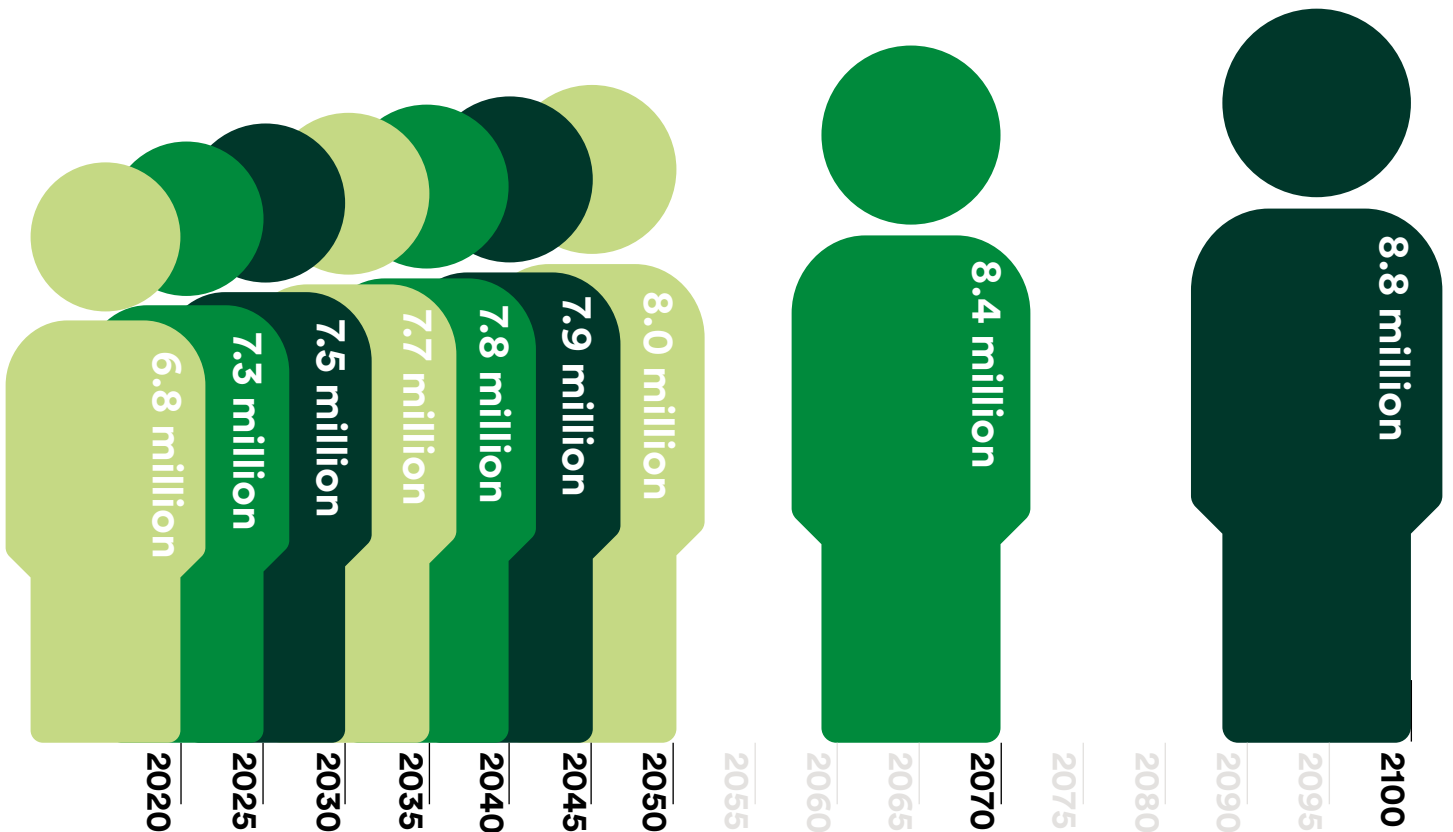
The population of the North West is predicted to increase by 14% by 2050, with growth expected across the whole region – from smaller towns through to major cities.

In addition, our climate is changing. The North West is already one of the wettest regions across the UK, with average rainfall ranging from 830mm per year in areas such as Manchester to 3,200mm per year in the Lake District. Climate change is predicted to lead to wetter winters and hotter, drier summers, along with an increase in the frequency and intensity of extreme weather.

In drier periods, the environment and ecosystems will be affected as temperatures increase, ground conditions change and water quality decreases. Climate change is affecting the whole of the North West and will need a partnership approach in order to reduce these risks. Customers and the environment will be affected by events such as flooding and overflow from sewers spills, which occur when drainage systems become overwhelmed with sudden increases in flow during intense storms.



Population growth in the North West



The Drainage and Wastewater Management Plan

The North West is facing significant challenges, both environmentally and socially. With a changing climate and a growing population, the future is uncertain. We need to plan to reduce any effect on our wastewater services and the experience customers have.

We are developing a 25-year Drainage and Wastewater Management Plan (DWMP) for 2025 to 2050, which aims to maintain and improve wastewater and drainage systems, now and in the future. The DWMP assesses the effects of future pressures on our wastewater systems over the short, medium and long term, and what can be done to address these issues – in partnership with others where possible.



“The DWMP assesses the effects of future pressures on our wastewater systems over the short, medium and long term, and what can be done to address these issues.”

DWMP opportunities



Collectively explore innovative solutions to understand what is best for the North West.



Work more collaboratively with stakeholders across the region to tackle shared risks relating to drainage, flooding and protecting the environment.



Develop a plan that will help address the increasing environmental expectations from customers and stakeholders and work towards the ambitions set out in Defra’s 25-year plan.



Use Systems Thinking, which involves looking at the drainage and wastewater system as a whole, rather than individual components, to better understand interactions and to allow us to deliver wider-ranging solutions.



Strengthen partnership working with stakeholders to drive integrated investment in the environment and communities.

How we have developed the draft DWMP

It is important that we understand how customers will want to use our services in the future so that we can plan to deliver them efficiently, effectively and to their satisfaction.

The views of customers and organisations we work in partnership with have hugely influenced our draft DWMP. We have revised and adapted it based on feedback. Our dealings with customers have shown that they now care about the environment more than ever, but there are still concerns about affordability and bills. By working with our stakeholders we will be able to make efficiencies and achieve more over the next 25 years.

Talking to customers about their priorities and concerns is a continuous process for us, and will continue to influence the DWMP. We will adapt it when necessary to reflect both a changing environment and changing customer priorities.

We have developed our plan in stages to understand risk at a local level and area wide. Examples of risks we are managing through the DWMP are flooding and reduced water quality. Many of our risks are also faced by our partners, so working in partnership with others can bring many benefits. We have developed separate plans for every river basin catchment area, 14 in total, across our region. This will allow us to work with customers and our partners to understand our environment and identify opportunities to improve.

The map (right) shows how the North West is divided into river basin catchments.



Predicting the future

In order to develop the plan we need to assess current and future risks that arise from challenges such as population growth and climate change. This allows us to plan for and manage risks before they affect our wastewater service. Some risks are beyond our control, so we have to plan and allow for them where possible.

We have carried out a number of assessments to work out where there may be issues across our region and how severe those issues are. These include assessments on sewer flooding, discharges from storm overflows, the performance of wastewater treatment works and the effect sewage discharges have on the environment.

We have used various methods and assessments to measure and forecast our performance against a variety of future risks, taking account of climate change, population growth and urban creep (where surfaces that naturally soak up rainwater are replaced by surfaces such as paving, tarmac or concrete). We have used a sector-leading approach of using hydraulic model outputs (modelling which assesses rainfall and how it flows into and through our sewers) to assess flood risk.

Summaries of our findings



Due to **climate change**, the amount of rainfall is due to increase over the next 25 years. There is also an increasing trend of replacing gardens with hard surfaces like driveways, which increases the volume of rainwater that enters the sewer system rather than soaking into the ground. This reduces the space in the sewers for transporting wastewater, and they **instead fill with rainwater**, which causes a flood risk.



Our assessments show that over the next 25 years, instances of **flooding inside properties** will increase, as will the number of properties at risk of flooding in a severe storm.



Our assessments show that due to climate change and an **increasing population**, the volume of wastewater that may spill into the environment, and the frequency of this, will increase. Customers are concerned about the quality of our environment, wanting it to be sustainable and to serve future generations. We will work with customers and regulators to make sure the DWMP delivers changes to support improvements in how we work.



Storm overflows are critical flood-management features for wastewater companies. They come into use only when sewers are full and need to drain to minimise the risk of flooding to properties. Our modelling has shown that over the next 25 years, rising river levels will submerge these storm overflows more frequently, reducing their ability to minimise sewer flood risks to properties in the North West.

Managing risks

The reality of the next 25 years and beyond is that we need to adapt to make sure we can continue to deliver a great service that can adapt to a changing climate with an increased demand for our service. Delivering large improvements will be very expensive and may not be affordable in the short term.

Our research has found that 94% of customers want us to work with other agencies to deliver benefits. Where we have the opportunity, we will deliver a lot of our work in partnership with strategic organisations such as the Environment Agency, local authorities and The Rivers Trust. This will allow risks identified in the DWMP, and other strategic plans such as the Flood Risk Management Plan, to be created and delivered in partnership to achieve wider benefits.

Historically, we have focused on traditional solutions, such as storm tanks. Although such solutions deliver benefits, they are usually expensive and carbon intensive (that is, produce a lot of emissions of CO₂). We will be delivering the DWMP through a mix of traditional and innovative solutions. This will create a balanced and adaptable programme of work which addresses customers' concerns relating to the environment and affordability. Examples of what these solutions may be are as follows.

“We will be delivering the DWMP through a mix of traditional and innovative solutions.”



Working with customers

99% of the customers we questioned told us that fixing the root cause of flooding and overflows from sewers is very important. 80% of sewer flooding incidents are preventable. Customer behaviour can have positive and negative effects on our ability to provide services. Flushing anything other than the ‘3 Ps’ (pee, poo and paper), and pouring fats and oils down the drain, causes blockages to form and prevents the sewer from carrying away the wastewater.

We will continue to work with customers to make sure they know about changes they can make to help prevent blockages. It may involve giving away ‘fat traps’ to collect excess cooking fat, educating on the ‘3 Ps’, and working with business customers in restaurants and takeaways to reduce fat, oil and grease entering the sewer network. This might involve working more with schools to educate future customers about the environmental effects associated with water and wastewater.



Slowly draining rainwater

Customers have told us that it is important to meet long-term challenges by working with the existing network and landscape to create efficiencies. Most of the sewers in the North West are combined, which means we collect both the dirty water from homes and the rainfall from gutters and roads. Reducing the amount of rainfall which enters the sewer system can have a huge effect on how the system copes during periods of extreme weather.

We can invest in technology that will mimic natural drainage to prevent surface water from going into the sewers. This will reduce the likelihood of sewage flooding homes and streets, as well as reducing the environmental effect of storm overflows releasing sewage to rivers.



Engineering

Due to climate change and a growing population, there will be instances where we will need to increase the capacity we have to treat and transport wastewater, so that we can make sure we deliver a resilient service.

This could be increasing the size of sewers, creating additional storage or increasing the size of wastewater treatment works. Such work is typically disruptive to customers and has a high carbon footprint due to the engineered nature of the design. We would look to combine these solutions with others to minimise the disruption to customers and the effect on bills.



Monitoring our network

We find out about wastewater issues, such as flooding or pollution, either during or after the event. Across the whole wastewater system there are many pipes and pumps involved in transporting and treating the wastewater. There are opportunities to improve the way we operate the whole system, using new technology to improve processes and use existing assets to their maximum potential. This involves monitoring variations from the normal trend of a feature or measure to detect any issue, such as a blockage, before it causes a problem such as flooding.



Have your say

We would like to know your views on our draft Drainage and Wastewater Management Plan so that we can take account of our customers' and stakeholders' opinions, as far as possible, when we finalise the plan for 2025 to 2050.



You can read and respond to our draft DWMP here:
[Draft Drainage and Wastewater Management Plan](#)

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