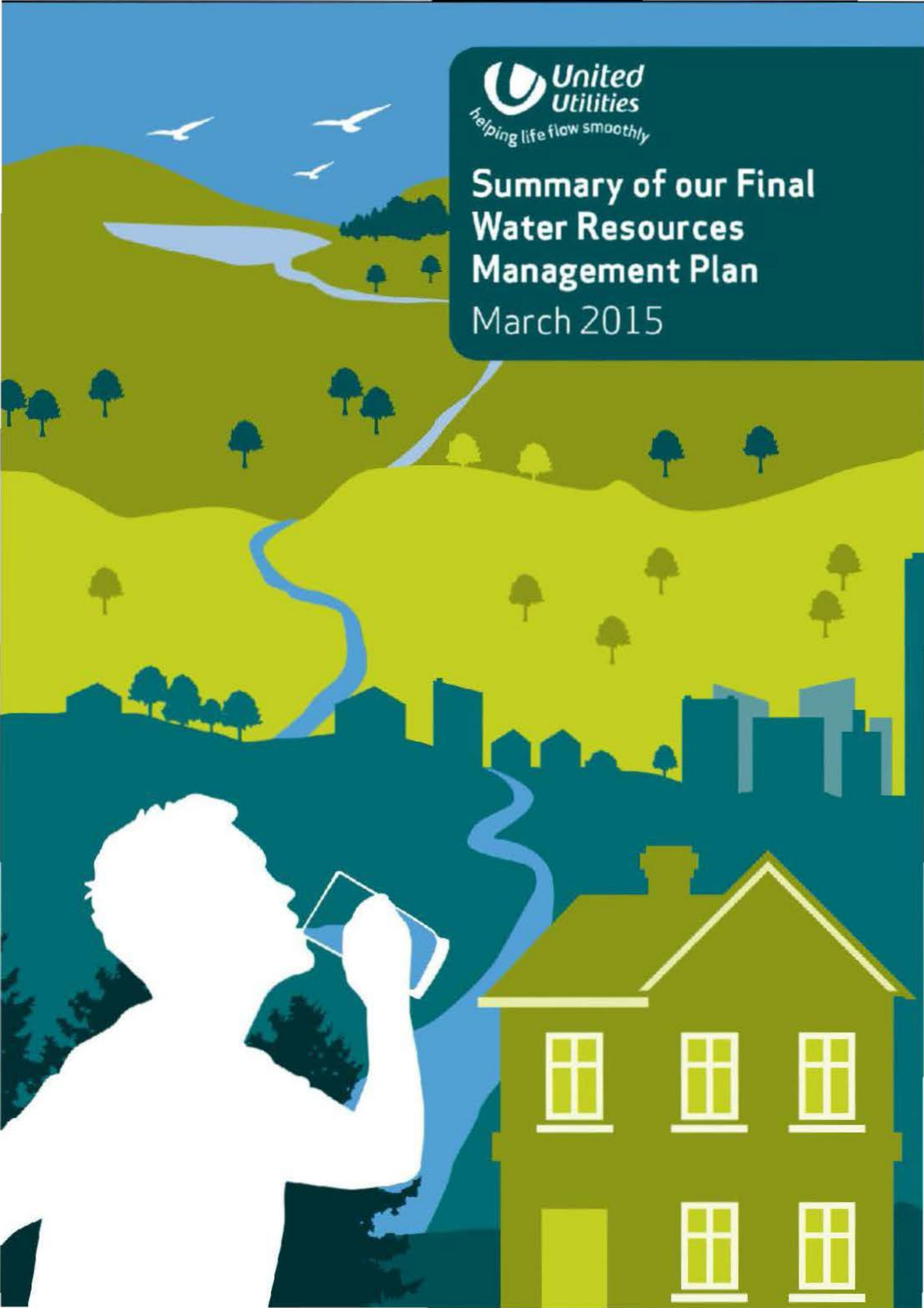




Summary of our Final Water Resources Management Plan

March 2015



SUMMARY OF OUR WATER RESOURCES MANAGEMENT PLAN

United Utilities is committed to providing high quality and reliable drinking water to its customers. It is important to have enough water for people to use at home. It is also important to have enough water for businesses, to enable a vibrant economy. Local communities and wildlife need water left in lakes and rivers to ensure their well-being. We need a detailed and robust plan to ensure we have enough water for all these needs, even with future challenges such as growth and climate change.

We have a statutory duty to produce a Water Resources Management Plan under the Water Act 2003. The Act includes a requirement for consultation on the plan so that stakeholders can understand the planning process and contribute to development of the plan.

This document is the summary for the Final 2015 Water Resources Management Plan, an update of the 2013 revised draft plan following an Examination in Public. Public hearings for the Examination in Public, chaired by a Planning Inspector, took place in September 2014. After the hearings, the Secretary of State directed that certain changes should be made to the plan, which we published within the 2015 revised draft plan in February 2015. Defra confirmed that the changes made were satisfactory on 25 February 2015, and that the 2015 revised draft plan could be published as the Final 2015 Water Resources Management Plan.

PURPOSE OF THE 2015 WATER RESOURCES PLAN

The plan describes in detail our assessment of the available water supplies and the demand for water by our customers over the 2015 – 2040 period. The plan also sets out our proposed strategy for water resources and demand management to ensure we have adequate water supplies to serve our customers.

In particular, there are some challenging water supply issues in West Cumbria. Here we need to make some tough decisions about how we balance some of our legal obligations with demand for secure water supplies in that area and we have listened carefully to views expressed in our consultation that on the whole support our plan. This plan also includes further detail on our interim activities to protect the environment in West Cumbria in the meantime, until our preferred plan can be delivered to provide a long-term solution.

Key Issues

To successfully meet the demand for water resources in the North West, we recognise that there are several key issues to address, including:

- Balancing the needs of all customers
- Planning for future uncertainty and climate change
- Providing evidence based plans to enable people to make informed decisions
- Carrying out our statutory duty to protect the water environment
- Protecting the landscape and amenity of the areas we live, work and play in

BALANCING THE NEEDS OF ALL CUSTOMERS

Ensuring a reliable water supply for our customers

Our customers have consistently informed us that having a reliable water supply is a top priority and have indicated that water use restrictions should be relatively infrequent.

Unlike other areas of the country, we aim to implement water use restrictions and drought permits, on average, once in 20 years; ban non-essential use only once in 35 years; and consider it unacceptable to plan for rota cuts or standpipes even in the most severe droughts.

Ensuring sustainable water abstraction to protect the environment

In most cases, and for most of the time, in North West England, there is adequate water available for abstraction. However, we are working with the Environment Agency to protect environmentally sensitive species and habitats – particularly in West Cumbria. It is an area of great environmental importance, all the natural lakes and rivers contain rare species and sensitive habitats, protected by law, including England's only viable population of the internationally protected freshwater mussel. The actions that are needed to help protect this species will result in a significant reduction in water available for supply in this area.

Ensuring that water prices are affordable

Actions to improve the environment or minimise the frequency of water use restrictions can be very costly and it is important to customers that these activities do not increase water bills unnecessarily. This is particularly important in a region like North West England where incomes are often well below the national average and affordability is a real issue.

PLANNING FOR FUTURE UNCERTAINTY AND CLIMATE CHANGE

Customers demand for water

A key part of our plan is knowing how much water customers need now and are likely to need in the future.

Total demand for water in the region has reduced in 18 out of the last 20 years. Over this time, we have more than halved the amount of water that leaks into the ground from our pipes, from 945 million litres per day in 1992 to 457 million litres per day now. We have achieved this by monitoring our network for leaks, replacing old pipes, finding, and fixing leaks. Right now, we find and fix leaks that are breaking out at a rate of more than 7,500 leaks per year on our own pipes and customer's underground pipes. Leakage in North West England is currently below the 'sustainable economic level', this means that the cost of finding and fixing the leak, including costs to society (e.g. additional traffic disruption) and the environment (carbon emissions), are more expensive than the cost of taking the water from our water sources. Nevertheless, we are committed to combating these leaks and preventing leakage levels rising.

Since 2010 we have really increased our effort to help customers be more water efficient in homes and businesses. We offer primary schools in the North West a free water efficiency education programme, including fun freebies. We also give away other water efficient products to help customers save water in the home such as water efficient shower heads and tap inserts. We visit businesses and suggest ways in which



We have sponsored the Kids TV character Gabi H2O dedicated to educating children about saving water

We have won awards with this campaign



they can use less water. We have also invested in research into new ways customers can be more water efficient.

We know that customers with a water meter use less water than those without a meter. We offer free water meters to customers to help manage water use and reduce bills. All new houses and businesses are also given a water meter.



Total demand for water in the region has reduced in 18 out of the last 20 years and we expect it continue reducing over the next 25 years.

In preparing this plan, we expect the number of people in the North West England to increase from 6.9 million in 2012 to 7.9 million by 2040 and believe the number of houses we will need to supply water to will increase from 3.0 million to 3.7 million. Water demand from businesses and industry in the North West has reduced in recent decades. We believe it will continue to fall between 2012 and 2040 by a further 17%, even with the expected economic growth in the region. This is because of a continuing trend of industry changing to become less water intensive and households becoming more water efficient.

With the current levels of water efficiency promotion, pipe leak detection and repair and providing water meters to customers free of charge continuing for the next 25 years, we think demand will continue to reduce despite the expected population and housing growth.

Available water supplies

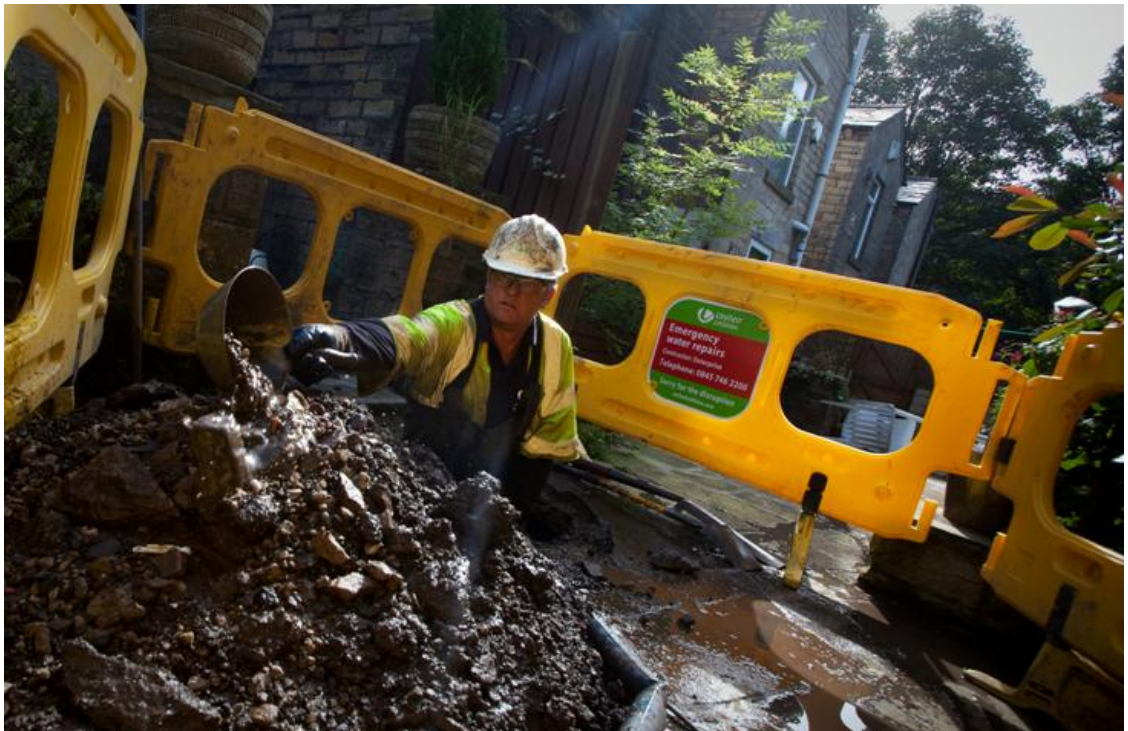
As well as forecasting customers' demand for water we also need to understand how much water we have available in the North West to supply to our customers taps, now and in the future.

We are continually working to improve our water supply resilience and to make sure there is enough water available for our customers to use. In 2012, a new 55 km West-East two-way water pipeline was completed between Merseyside and Manchester, doubling the capacity of water that can be transferred between these areas. This helps us to maintain adequate supplies to major areas of the Integrated Resource Zone in times of dry weather, this is our largest water resource zone and covers most of North West England. This pipeline also allows us to undertake important maintenance on our existing water pipe network.

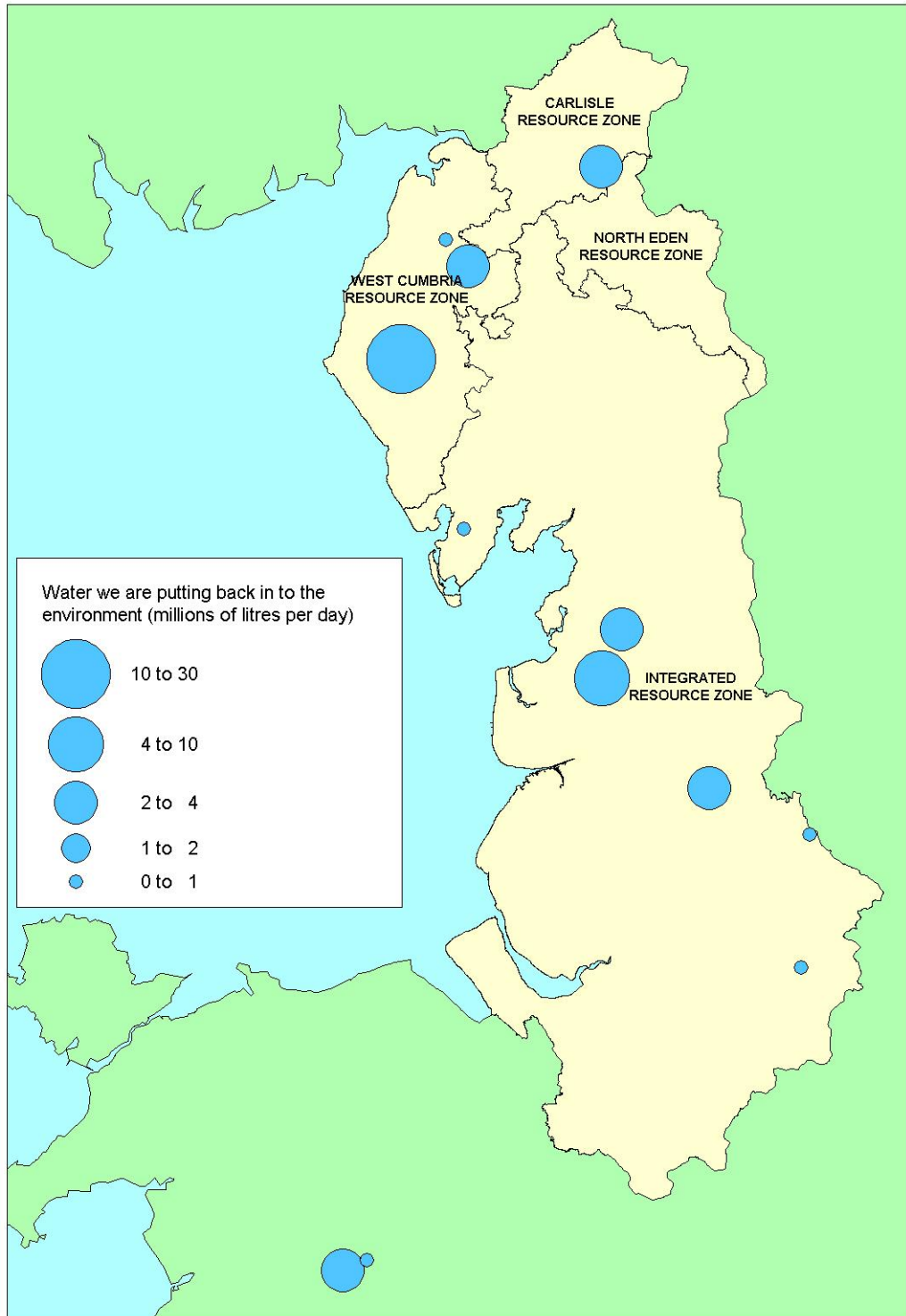
Since our last plan we have also improved the water resource models that we use to work out how much water is available in each resource zone, now and in the future. We have developed more detailed models of our water network including all our main water sources, water treatment works and areas of water demand across each resource zone, using software called Aquator™. This is advanced software and one of the most widely used in the water industry. It has enabled us to better represent the water supplies we have available and to understand the effects of any possible future changes on our water availability.

One of the changes we need to know is the impact of climate change on future water supply. For this plan we have greatly improved our climate change assessment and have applied a risk-based approach using the best current climate change information available (UK Climate Predictions 2009). This means where it is thought climate change could have a large impact on water availability we have carried out a very detailed assessment.

We also need to include the impact of planned environmental improvements on water available for supply. We know in the future there will be a reduction in the water we can take from some sources, to leave more to improve the environment. The ecologically sensitive areas that require more water are still being decided by the Environment Agency, but our assessment indicates that the effect of these changes will have a modest impact on the water we have available for supply across most of North West England. Please see the map over the page for an indication of where these environmental improvements may be. However, this is not the case for our West Cumbria Resource Zone. West Cumbria is home to England's only viable population of the internationally protected freshwater mussel. The actions that are needed to help protect this species will result in a significant reduction in water available for supply in this area.



We have more than halved the amount of water that leaks in to the ground from our pipes since 1995



We are leaving more water in our lakes and rivers right across the North West

Taking account of uncertainties

It's really important that we have more than enough water available than is forecast to be needed. For example, climate change may be worse than predicted or pollution may mean that some water sources can't be used for a while. We have assessed the

uncertainty in our forecasts and have allowed sufficient headroom between supply and demand forecasts.

We have also considered scenarios with more extreme outcomes and identified sufficient options in the plan to meet any potential deficit.

PROVIDING EVIDENCE BASED PLANS TO MAKE INFORMED DECISIONS

Environmental sensitivity of West Cumbria

West Cumbria is known for its stunning landscape and areas of almost pristine environment. All the main surface sources of water in West Cumbria contain rare species, protected by law. Atlantic salmon, charr and many rare aquatic plants are present. The area also hosts England's only viable population of the internationally protected freshwater mussel. Without changes to our abstraction from Ennerdale Water, this species could become extinct in England.

UK and European Law protects the environment in West Cumbria. Ennerdale Water is a designated Site of Special Scientific Interest (SSSI) and, downstream of the lake, the River Ehen is both a SSSI and a Special Area of Conservation (SAC). Crummock Water and the River Cocker are both part of a SSSI and a SAC. Overwater is also a SSSI. All three sites are in the Lake District National Park and therefore the visual amenity and landscapes are legally protected.

The Lake District currently attracts 15.2 million visitors each year, sustains 14,865 tourism jobs and generates £935m in spending per year. Many of these tourists visit to see the stunning mountain and Lakeland landscapes and the leisure opportunities that this presents.

West Cumbria is a major part of Britain's Energy Coast's vision for the nation's energy security, including the generation of low carbon energy and other clean forms of energy. Significant investment is anticipated that will contribute to the local economy for the next 15 years, including the potential generation of 3,000 jobs. The area is already home to one of the UK's largest concentrations of high tech, advanced manufacturing employment¹.

Providing secure water supplies and protecting the aquatic environment in this setting is a fine balance. The Cumbrian mountains mean that the water network in West Cumbria is separate from the rest of our water supply areas, and public water supplies are reliant on the local sources. All of this means that the water supply options in West Cumbria are limited.

During the pre-consultation and consultation periods, many Cumbrian stakeholders have expressed views that we need to take a strategic long-term view of the overall water resources situation in West Cumbria. These include the Lake District National Park, Friends of the Lake District, The Derwent Owners' Association and the West Cumbria Rivers Trust.

Our stakeholders, the scientific evidence and the law all tell us that we need to change the water supply arrangements in West Cumbria significantly to make them resilient, reliable and sustainable for the long term.

¹ www.britainsenergycoast.co.uk/blueprint

Demand management

Demand management has an important role to play in securing reliable water supply in the light of future challenges.

We are committed to reducing demand by increasing levels of household metering, continuing to offer water efficient devices, advice and education and maintaining a sustainable economic level of leakage.

We have assessed the benefits of our baseline demand management strategy. Without the reductions in demand from our free meter option programme and water efficiency programmes there would be a supply demand deficit in the Integrated Resource Zone of 107 million litres per day by 2040. This means that we avoid having to develop a large number of new water sources because of our demand management programme.

The total net present value of the avoided new water source development is over £300 million

Our plan

We identified three possible ways to meet the challenges in West Cumbria. We presented these alternatives in our draft plan and have listened carefully to views expressed in the consultation. We have also conducted further customer research to inform our final plan. As a result, our preferred plan is to use some of the spare water available in our Integrated Resource Zone. We will build a new water treatment works and a pipeline between West Cumbria and Thirlmere Reservoir, one of our largest water sources. This will form the UK's largest interconnected water resource zone. The pipeline will be sufficiently large, so it could provide all our customers' needs including any future increase in demand, above which we have forecast.

A lower-cost alternative plan to provide this water was considered in the consultation. This was to build a number of new water sources in West Cumbria including boreholes and a pipeline from Wastwater, a lake owned by another party. This remains the lowest cost combination of options to maintain water supply to our customers in West Cumbria. However, there is considerable concern about the viability of this scheme, impacts on the environment and a lack of stakeholder and customer support. We therefore consider that together with the urgency to resolve the underlying environmental issue, it is not in our customers' interest to adopt this as the preferred plan.

Another alternative plan considered in the consultation was to buy water from Northumbrian Water. This would have been from Kielder Reservoir in the North Pennines and required a new water pipeline from Kielder Reservoir to a new water treatment works near Carlisle, and then a new drinking water pipeline to West Cumbria. This had similar benefits to our preferred plan, Thirlmere, but was slightly more expensive to build and a lot more expensive to run due to the requirement to pump water over a long distance (70 km). The very high cost of this option and the fact that it would take longer to design and build than the other alternatives mean that it is not in our customers' or the environment's interest to consider this alternative plan further.

Although the preferred Thirlmere plan is more expensive than the lowest-cost alternative in the draft plan, we think that is the only plan that can provide certainty that enough water is available in West Cumbria and we meet our legal obligations to protect the environment. It will mean we no longer need to take water from the most environmentally sensitive sites in West Cumbria; so the habitats can return to a more natural condition. It

provides our customers with a more reliable water supply in times of dry weather. We can size the pipeline to meet water demands greater than currently expected because of the possible future economic growth in the area. Being part of the UK's largest water resource zone will increase the reliability of customers' water supply to other factors, such as future climate change.

The preferred plan involves more water being taken from Thirlmere Reservoir, but this would be within the existing allowed amount and will not impact the environmentally sensitive sites around Thirlmere. As it is part of the Integrated Resource Zone the use of Thirlmere can be balanced with other sources across the region to make sure we are using water where it is available, depending on where it rains. Demand reductions in this zone mean that water is available to supply West Cumbria without increasing abstraction above current limits.

We have forecast that there is still enough water for our customers in the Integrated Resource Zone even when we build a pipeline from Thirlmere Reservoir to provide water to our customers in West Cumbria.

Given the challenges we face in the West Cumbria Resource Zone, it will take several years to implement our preferred Thirlmere plan. As a result, we have already completed actions to significantly reduce abstraction from Ennerdale Water, and have several activities underway to reduce this even further. This will help minimise environmental pressure until our water abstraction from Ennerdale Water ceases.

Since development of the revised draft 2013 Water Resources Management Plan, we have set up a project team to progress the preferred Thirlmere Plan, with a view to achieving the security of supply and environmental benefits as soon as possible subject to planning and environmental approval. The team has undertaken a review of the project schedule, in particular the timeline to a planning decision. As a result of good engagement with local communities and planning/highways officers, we are sufficiently confident that we can complete the planning process earlier than previously estimated. Consequently, the most likely completion date for the project, and therefore the revocation of the Ennerdale Water abstraction licence, is 31 March 2022. This is three years earlier than the 2024/25 date assumed in the 2013 revised draft plan. However, it should be noted that there are still project risks (planning and construction), some of which are outside the company's control, which may have an impact on the completion date for the project.

Whilst working on our plan we have also identified lots of new ways we could provide more water to customers living in our Integrated Resource Zone and ways to further reduce customer demand. However, should customer demand for water and water available for supply in the future be as we expect it, we will not need to use any of these new ideas.

In addition, the government has asked us to look into the possibility of buying and selling water between water company regions. The purpose is for water to be transferred from areas where it rains a lot, such as North West England, to areas where it does not rain as much and where there are many people, like the South East of England. This will help to make sure that everyone in the country has enough water and that water is not being taken unnecessarily from areas that are environmentally sensitive, causing damage.

Thanks to our baseline demand management activities, see text box above, we have more water than we need in the Integrated Resource Zone and lots of potential to make more water available. We have considered the possibility of trading water with companies that need water to maintain customer's supplies in the future. This is mainly during dry weather conditions. However, we would only do this if it was beneficial to our customers in the North West and the customers of the water company we would be providing water to. No water transfers have been confirmed as needed by other water companies, so they are not included in our preferred plan. We will continue to work with other interested companies and other third parties to investigate how these water transfers could work in the future.

EXAMINATION IN PUBLIC OF THIS PLAN

On 2 April 2014, we were notified that the Secretary of State had decided to exercise his power to call for an inquiry or other hearing in connection with our 2013 revised draft Water Resources Management Plan. As part of the resulting Examination in Public, we submitted a formal Statement of Case and Statements of Common Ground with both the Environment Agency and Natural England, alongside other supporting material. On 16 and 17 September 2014, two public hearings took place, chaired by a Planning Inspector.

On 9 December 2014, the Secretary of State issued her decision to accept the conclusions and recommendations in the Inspector's report². The Secretary of State directed us to make the following changes:

- To include the new project in use date for the Thirlmere option and include the justification for the change of date. To update the Plan to reflect the further work that has been undertaken on the Thirlmere option since November 2013 as detailed in paragraph 2.12 of the Report²;
- To prepare and include a contingency plan as agreed in paragraph 3.2 of the Report². The contingency plan should be based on the local sources alternative in the draft Plan (as per the Statement of Common Ground with the Environment Agency). Make clear at what point United Utilities would begin progressing the contingency plan instead of the Thirlmere option; and
- To include information on the additional abstraction measures identified in paragraphs 4.6 to 4.9 of the Report² (the South Egremont boreholes, the Summergrove scheme and tankering). This information should cover the work that is required to make these additional measures available, what the yield is and the timelines for completion.

These changes were included in the 2015 revised draft plan, which has since been approved for publication by the Secretary of State as our Final 2015 Water Resources Management Plan (this version).

CARRYING OUT OUR STATUTORY DUTY TO PROTECT THE WATER ENVIRONMENT

We take seriously our duty to carry out statutory obligations under UK and EU law.

- We recognise we have a statutory duty to produce a Water Resource Management Plan under the Water Act 2003;
- The Water Resources Management Plan Direction 2012 (Defra, 2012) sets out specific requirements for the preparation and publication of a Water Resources Management Plan. We have demonstrated we have complied with these;
- The Environment Agency, Ofwat and Defra have issued a Water Resources Planning Guideline (EA, 2012) which provides detailed guidance on how water companies should prepare their Water Resources Management Plans. We have comprehensively followed the guideline in preparing our Water Resources Management Plan;
- The Guiding Principles for the Water Resources Planning Guideline make clear the importance of the government's Water White Paper and Draft Water Bill in water resource planning. In following these Guiding Principles, we have included the following in our water resource planning approach:
 - Delivery of the best value to customers. Water Resource Management Plans should be environmentally sustainable including; full consideration of demand management option, water trading, cross boundary solutions and third party supplier solutions to ensure efficient allocation of available resource; and

² The Planning Inspector's report is available at <http://www.hwa.uk.com/projects/united-utilities-water-resources-management-plan-eip/>

- Plans must be adaptable and take account of uncertainty through full scenario testing. This should be focused on the main areas of uncertainty such as future climate change and environmental requirement for water.
- As a competent authority we have met our responsibilities under the relevant legislation protecting European Designated sites (SSSIs and SACs), we have undertaken a Strategic Environmental Assessment and Habitats Regulation Assessment of our plan.

PROTECTING THE LANDSCAPE AND AMENITY OF THE AREAS WE LIVE, WORK AND PLAY IN

We have closely considered the value our customers place on their surroundings. We have considered the environmental and social costs of our proposed options in the West Cumbria Resource Zone. Cost-benefit valuations were carried out following the detailed methods in the Benefits Assessment Guidance.

The environmental and social issues evaluated include a wide range of issues, such as:

- Environmental impacts of water supply schemes, during construction and/or during scheme operation. Examples of impacts considered include those on aquatic flora and fauna, informal recreation activities such as walking, cycling or birdwatching, in-stream recreational activities such as boating, canoeing or rowing, other water abstractors, heritage, archaeology and landscape;
- Social impacts of water supply schemes, during construction and/or during scheme operation. Examples of impacts considered include those of noise, dust, odour, or time delays to people's journeys as a result of work in highways to lay or repair pipelines; and
- Increases or reductions in carbon emissions that could result from the abstraction, treatment and distribution of water. Examples of impacts considered include: fuel consumption of vehicles used in construction, leakage management, installation of water meters or water efficiency devices, energy use at work sites, emissions from road traffic as a result of diversions or disruptions, embodied carbon in materials used, changes in water use (and thus changes in energy use) within the home.

We have also taken in to account specific legislation for any works proposed within designated landscapes in the region, such as National Parks and Areas of Outstanding Natural Beauty.

SUMMARY AND NEXT STEPS

Our water resources and demand strategies ensure that our water supply reliability will continue to be achieved across the region over the 2040 planning horizon. It also ensures sustainable water abstraction and meets the challenges of climate change.

We propose to resolve the forecast shortfall in supply in West Cumbria by connecting the area into the Integrated Resource Zone. This will allow long-term environmental protection for this environmentally important area, make it resilient to changes in the climate and support economic growth. Until this connection is completed, we will undertake additional activities to reduce abstraction from Ennerdale Water in West Cumbria and update our contingency plan at least annually.

No deficits of supply are forecast elsewhere in the North West region.

We will continue to operate the most economically sustainable level of leakage, finding and fixing repairs where it is of economic benefit to our customers to do so.

We will continue to encourage our customers to take up the Free Meter Option available to them and we will look into new and engaging ways to help customers monitor and manage their own water consumption. We will also undertake more targeted promotion of the free meter option to those customers who will financially benefit the most.

We will continue to be leaders in the area of water efficiency, to deliver a continued reduction total demand for water.

Over the medium term, we will continue to consider the potential for exporting water to other parts of the UK, where it is economic to do so and will result in benefits for our customers.

We have produced a plan that is not only compliant with the Environment Agency's guidelines and incorporates current best practice, but a plan that is robust, flexible and helps the North West be ready for the future. It also incorporates the Secretary of State's direction resulting from the Examination in Public on our plan, which took place in summer 2014. We are publishing the Final Water Resources Management Plan in March 2015 following approval by the Secretary of State.

We will review this plan every year to take account of changes in demand and supply availability, and revise the plan if required. This might occur, for example, if the Thirlmere option becomes undeliverable and we need to implement our contingency plan. We will produce a full new Water Resources Management Plan for public consultation in 2018.