



Water Resources North Revised Water Resources Position Statement

**Non-Technical
Summary**



February 2021

What is Water Resources North?

Water Resources North (WReN) is one of five regional water resources groups in England. We are developing a long term regional water resources plan for Yorkshire and the North East. Our ambition is to help to facilitate sustainable growth across this region, whilst also protecting and enhancing our valuable natural environment. We aim to ensure that our region has a sustainable, long-term plan for water resources that protects the resilience of our region's environment and multi-sectoral water supply in the face of challenges such as climate change and population growth. We are also working with other regions to help secure resilient water supplies for the country as a whole.

Progressing to our first plan

In March 2020, we published an Initial Resource Position (IRP) for our region¹. This set out an early view of water resources in our region, using information from two key sets of sources. For public water supply, we used water companies' latest Water Resources Management Plans (WRMPs), published in 2019. For water abstraction and use by other sectors, outside public water supply, we referred to the Water Resources National Framework (WRNF), which was published by the Environment Agency in March 2020².

Since then, we have made good progress towards our first Regional Plan. This has included work on the technical aspects of water resources planning for public water supply, as well as engagement with other sectors and environmental stakeholders to understand how we can ensure that non-public water supply is appropriately included in our Regional Plan whilst also protecting our environment.

This document presents a non-technical summary of our progress towards our first plan. Alongside this summary, we have also published a simple 'plan on a page', as well as a more detailed update on our regional position, both of which are available on our website.



¹ <http://www.waterresourcesnorth.org>

² <https://www.gov.uk/government/publications/meeting-our-future-water-needs-a-national-framework-for-water-resources>

What do we know now?

Public water supply and demand

The three water companies in our region (Yorkshire Water, Northumbrian Water and Hartlepool Water), typically supply about 2,000 million litres per day (Ml/d) of water to their customers, across five public water resource zones (integrated supply areas). In our March 2020 IRP, we summarised the supply-demand status for these five zones across our region. At that stage, based on data from water companies' WRMPs, all zones were in surplus.

Water companies are now updating their supply-demand forecasts for the Regional Plan and their next WRMPs, which will be finalised in 2024. Our early work on this indicates that there are a couple of areas that could result in a change to our supply-demand balance compared to our previous forecasts.

In our Berwick zone, agreeing a long-term position for the environment will be particularly important. In our largest zone, the Yorkshire Grid, the impacts of increased demand, alongside climate change, could mean that we will have a reduced surplus and there is some risk of a deficit. Our other three zones (Kielder, Hartlepool and Yorkshire East) are expected to remain in surplus.

However, at this stage we expect that the likely scale of any deficits will be modest, such that in-region water resources options should be able to address any issues. Ambitious and challenging reductions in demand – including leakage and per capita consumption – will also be important options for us to consider in our plans to maintain resilient public water supply in our region.



Catchment pressures

We have also considered the water availability within each of the river catchments in our region, accounting for non-public water supply demands and environmental needs alongside those of public water supply. We did not present this in our March 2020 IRP. Instead, our understanding has evolved through working with key stakeholders over the last year and through the provision of key datasets by the Environment Agency.

We have approached this work by separating out current and future (up to 2050) catchment risk factors. These pressures include:

- abstraction availability (short and long term);
- Water Framework Directive (WFD) status;
- public water supply and non-public water supply current abstraction;
- likelihood of growth in abstractions; and
- likelihood of abstraction reductions related to environmental destination.

We scored these catchment pressures to reflect the severity of the issue, and then combined these scores to provide an overall sense of the pressure on the catchment.

This work showed that for six of the 16 catchments in our region, the new data that we have has not significantly changed our view of the water resource pressures in those catchments. In three of the catchments our view is that the risk of them having a water resources deficit has increased slightly, and in the remaining seven catchments the new data shows a more significant risk of a deficit.

We have presented the full results from this work in our more detailed document published alongside this non-technical summary. We have included a map overlaying catchment data and public water supply data on the next page of this summary document.



A map of our region showing the spatial combination of catchment and public water supply pressures

Non-public water supply and demand

In our March 2020 IRP, we presented data for sectors that abstract their own water from the environment (i.e. not for public water supply), based on information that was included in the WRNF. This estimated a total increase in non-public water supply abstraction of some 26 MI/d by 2050, from a 2020 baseline of approximately 164 MI/d.

However, these other sectors do not have the same well-developed demand forecasting processes as water companies, and therefore this growth is highly uncertain. For example, climate change, changes to agricultural subsidy policies and the global nature of food markets will influence how much water agriculture will need. National and international policies, such as ‘net zero carbon’, will affect the amount of water needed for energy generation. The emergence of new technologies such as the hydrogen economy, and carbon capture and storage will also influence future water needs.

We have therefore been working closely with non-public water supply stakeholders over the last year to better understand how well the data included in the WRNF represents future needs.

We have held specific discussions with the energy sector, seeking to further understand the development of hydrogen and carbon capture and storage plants in clusters on the Humber and Teesside, as well as potential inland demands. Energy UK are currently working to produce a report which provides further insight into the likely energy sector water demand trajectory over a number of possible scenarios. We expect this to be published in spring 2021.

We are also supporting discussions with the Environment Agency and National Farmers’ Union (NFU) to capture the current and potential future agricultural demands of this region.

In our Regional Plan we will seek to ensure the needs of non-public water supply are accounted for as accurately as possible, although it is likely that considerable uncertainty will remain in this area.

Environmental Destination

Our March 2020 IRP outlined our initial thinking on how our Regional Plan could help to protect and enhance the environment. Since then, the national view of what environmental destination needs to look like in the Regional Plans has evolved significantly, and the Environment Agency has issued guidance which sets out an expectation for all regional groups to follow a broadly consistent approach, whilst reflecting local and regional priorities.

The guidance outlines stages needed to propose a long-term environmental destination. Our Regional Plan will be developed in line with this guidance, and we have already been working closely with key stakeholders to start shaping our long-term environmental destination.

The Environment Agency has also issued data from a national modelling exercise to help shape discussions around environmental destination. This data uses future water resources scenarios to provide an illustration of the changes in abstraction that may be required to ensure that the water environment is sufficiently protected in the long-term. These range from 'Business as Usual', through to an 'Enhanced' scenario in which ecologically valuable or sensitive sites are afforded a greater level of protection.

For our region, this data indicates that the potential long-term reductions in abstraction range from 74 Ml/d for 'Business as Usual', to 336 Ml/d for 'Enhanced'. At this stage in the regional planning process, it is important to note that the data and scenarios quoted here are a high level, nationally derived tool to inform initial discussions, rather than any confirmed or fixed values.

Going forward, we will be taking an evidence-based approach to environmental destination, working with key sectors, as well as regional and local groups, such as catchment partnerships, to identify environmental improvements that are meaningful to our region.



Climate change & drought

In the last round of planning for public water supply, water companies used UK Climate Projections 2009 (UKCP09) data. For the development of our Regional Plan and the next WRMPs, we will update our assessment of the potential impacts using the latest UKCP18 projections.

Broadly speaking, this climate change data shows that in the future there will be a greater chance of hotter, drier summers and warmer, wetter winters. However, rainfall patterns across the UK are not uniform; they vary on seasonal and regional scales and will continue to do so in the future. Like other regions, our focus in the first draft of our Regional Plan will be on applying the Regional Climate Models (RCMs) data, which is spatially coherent and allows for consistent assessment across regional modelling. In addition, we will use a sample of probabilistic projections to further inform our understanding of climate change uncertainties.

Our expectations are that the impact of climate change will be more severe when compared to previous assessments, and a recent national study by Atkins indicated that for our region, the reduction in summer precipitation by the 2070s (2061-2080) varies significantly between scenarios, with most scenarios showing reductions of between 10% and 49%. Significantly greater reductions are expected in some other regions.

However, ongoing work at national level and with regulators will influence how we scale climate impacts over time into our plans in time for including in our draft August Plan; it is too early to draw firm conclusions on the impacts at this stage.

Supporting national resilience

Our March 2020 IRP showed that, at a regional level, we currently have a water resources surplus. The work that we are doing for our first Regional Plan is showing that there are likely to be upward pressures on demand into the future, due to increases in population and the growth of water use in sectors outside public water supply, such as energy and agriculture. Further, the amount of water available to us is likely to decrease, because of the impacts of climate change and the need to ensure that we protect and enhance our region's environment. In addition, we need to ensure that we are resilient to a 1 in 500-year drought scenario.

However, although these pressures could create a risk of deficit in some parts of our region or in some catchments, at a regional scale we could remain in surplus. This is largely because of Kielder Reservoir, which is in the north of our region close to the border with Scotland.

Recognising this, we are currently investigating potential water transfer options that might help to support other regions and national water resources resilience. We are in discussions with other regions – principally Water Resources West and Water Resources East – to understand the potential need for such schemes, including size and feasibility. More detail on this work and the potential options is included in our more detailed update, which is available on our website via the link below.

How to find out more

More information about Water Resources North, including our publications and how you can contact us, is available on our website, www.waterresourcesnorth.org.

Our next steps

Over the next six months we will be working hard to produce an initial draft of our Regional Plan. Our activity will include technical work to deliver updated forecasts for public water resources supply and demand, working with other sectors to better understand their future needs, and agreeing an environmental destination for our region with stakeholders. We will also continue to work closely with other regions on potential water transfer options.

An initial draft of our plan will be completed in August 2021. A particular focus at this stage will be ensuring that our Regional Plan aligns with those of other regions, in particular with respect to water transfers between regions, so that a nationally coherent picture is created when all the plans are slotted together.

Once this work has been completed, we will formally publish our draft Regional Plan for consultation to allow a wider group of stakeholders, customers and regulators significant opportunity to shape the plan. This will be in early 2022. Following that consultation process, in August 2022, we will publish a final draft version of our Regional Plan, around the same time that water companies also submit their draft WRMP24s to regulators.

