

# Draft Water Resources Management Plan 2018

31<sup>st</sup> December 2017



Dŵr Dyffryn  
Dyfrdwy  
Eich cwmni dŵr lleol



Dee Valley  
Water  
Your local water company



## Contents

1. About Dee Valley Water
2. About this consultation
3. Water resources in Wales
4. Our approach to water resources planning
5. Our long term water resources strategy
6. Understanding customer and stakeholder views

### **Appendix A – How much water do we have available?**

A1 – Defining our Water Resource Zones

A2 – Calculating Deployable Output

A2.1 – Changes in deployable output

A2.1.1 – Our role in achieving sustainable abstractions

A2.1.2 – Invasive non-native species (INNS)

A2.1.3 – Possible changes to abstraction licences

A2.1.4 – Abstraction reform

A2.1.5 – Climate change

A2.2 - Resilience of supply

A2.2.1 - Drought Resilience

A2.2.2 - Levels of Service

A2.2.3 – Resilience to flooding events

A3 – Water transfers and bulk supplies

A4 – Outage

A5 – Drinking water quality

A5.1 – Treatment works losses and operational use

### **Appendix B – How much water will we need?**

B1 – Forecasting demand for water in our region

B2 – Forecasting household demand for water

B2.1 – Base year population and properties

B2.2 – Forecasting household water consumption

B2.3 – Forecasting demand

B2.4 – Assessing uncertainty

B2.5 – Market transformation data

B2.6 – Micro-component trend model – baseline scenario

- B2.7 – Climate change
- B3 – Forecasting non-household demand for water
- B4 – Leakage
- B5 – Baseline water efficiency activities
  - B5.1 – Options included in our baseline programme
  - B5.2 – Revisions to demand saving assumptions
  - B5.3 – Decay of savings
- B6 – Baseline demand projections

## **Appendix C – Target Headroom and the Supply Demand Balance**

- C1 – The headroom modelling approach
- C2 – Supply-Demand Balance

## **Appendix D – Deriving our investment plan**

- D1 – Unconstrained supply/demand options
- D2 – Scheme rejection log and list of feasible options
- D3 – Our recommended options
  - D3.1 – Leakage reduction
  - D3.2 – Water efficiency
  - D3.3 – Metering
  - D3.4 – Other options
- D4 – Greenhouse gas emissions

## **Appendix E – Testing the plan**

- E1 – Stakeholder and Customer Engagement

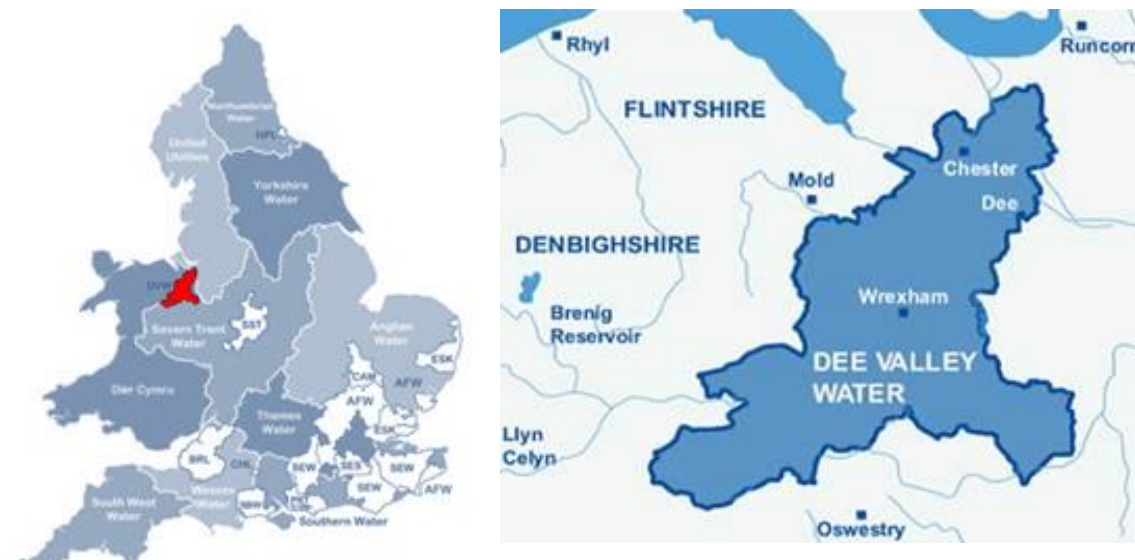
## **Appendix F – WRMP Tables**

## **Appendix G – Supporting Documents**

## **Appendix H – Board Assurance Statement**

## 1 About Dee Valley Water

Dee Valley Water is a water supply only company which provides around 64 million litres of water per day, to a population of over 250,000 in the area of north east Wales and Chester (Figure 1). Our customers comprise approximately 110,000 households and 8,000 business customers.



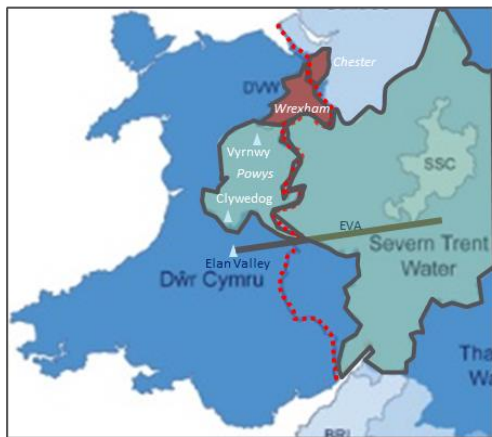
**Figure 1 - Dee Valley Water supply area**

85% of our raw water comes from the River Dee, 10% from a series of impounding reservoirs and the remaining 5% from a spring source near Llangollen and a groundwater source at Mickle Trafford, near Chester.

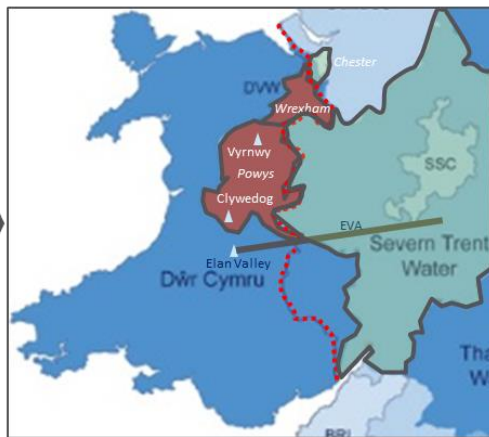
Water is treated at five treatment works and is then supplied to customers through a network of approximately 2000 km of water mains, 30 pumping stations and 33 clean water storage reservoirs.

Until February 2017, we were the smallest of the water companies existing since privatisation of the water industry in 1989. On 8 February 2017, Dee Valley Water was acquired by Severn Trent Plc; this draft Water Resource Management Plan relates to the area currently served by Dee Valley Water. A separate plan has been developed for the existing Severn Trent Water area. Our application to Ofwat for a new licence appointment / variation (NAV) for these two licensed undertakings is due to complete in April 2018. Following these licence variations, we intend to publish the final WRMPs based on the geographies of the new areas of appointment (Figure 2), so far as reasonably practicable given the integrated nature of the supply systems and underlying models. This would be in the form of a separate English WRMP and Welsh WRMP, and will be in keeping with our customer and stakeholder engagement to date in England and Wales. We will use the customer and consultee feedback collected through our draft WRMP (dWRMP18) consultation process to inform those final WRMP (WRMP19) publications.

Today



2018



**Figure 2 – Changes to the Dee Valley Water area**

This dWRMP18 will set out how we propose to meet our customers' requirements for water over the next 25 years, to 2044/45.

## 2 About this consultation

This is Dee Valley's fourth published draft Water Resources Management Plan (WRMP) for consultation. It is a statutory requirement that every five years water companies produce and publish a WRMP. The WRMP should demonstrate that we have long term plans in place to accommodate the impacts of population growth, drought, our environmental obligations and climate change uncertainty in order to balance supply and demand.

The Water Industry Act 1991 sets out the basis under which all water and wastewater companies (referred to as 'undertakers' in the Act) in England and Wales must operate. The most fundamental of our duties is to develop and maintain a safe, efficient and economical system of water supply within our area of operation. As part of this process we produce a water resource management plan (commonly referred to as a 'WRMP') which sets out how we will manage and develop water resources to ensure that we can continue to meet our fundamental water supply duty.

We are required to produce a WRMP every five years – reviewed annually – which forecasts how much water we can provide ('supply') and how much water our customers require ('demand') over a 25 year period. We must prove to our regulators that we will be able to meet our customers' needs during a drought – when demand is at its highest – while still protecting the environment.

We last published a WRMP in 2014 (WRMP14) which covered the period 2015 to 2040. In 2016, Welsh Government issued the Water Resources Management Plan (Wales) Directions 2016 which directed all water companies operating wholly or mainly in Wales to prepare a WRMP for 2020. This draft WRMP18 (dWRMP18) is our response to this direction and sets out how we propose to ensure we can meet the demand of our customers for the period 2020 to 2045.

We are now seeking your views on the proposals set out in this dWRMP18. In particular, we would welcome your views on:

- our assessment of future risks to water resource availability; and
- our proposals for making sure we have sufficient supplies to meet future demand for water.

The consultation period will end on **11 June 2018**, after which we will consider any responses and we will update our plan accordingly. We expect to publish our final WRMP19 in the autumn of 2018.

The statutory water resources management planning process requires that you send your comments on our dWRMP18 to Welsh Government who will then pass them on to us for review.

You can respond to our dWRMP18 by email to [Water@gov.wales](mailto:Water@gov.wales). You should include the words "Dee Valley WRMP consultation response" in the email heading.

You can also respond by post to:

**Water, Waste Resource Efficiency and Flood Division,  
Welsh Government,  
Cathays Park  
Cardiff  
CF10 3NQ**

### 3 Water resources in Wales

This is an interesting and exciting time to be a water company in Wales. Welsh Government have, over the last five to ten years, been developing a clear vision for the well-being of the people of Wales and for the future management of natural resources. Moreover, they have made a strong link between these two policy areas and set out their expectations for organisations working in Wales, as to the part they will play in delivering this vision.

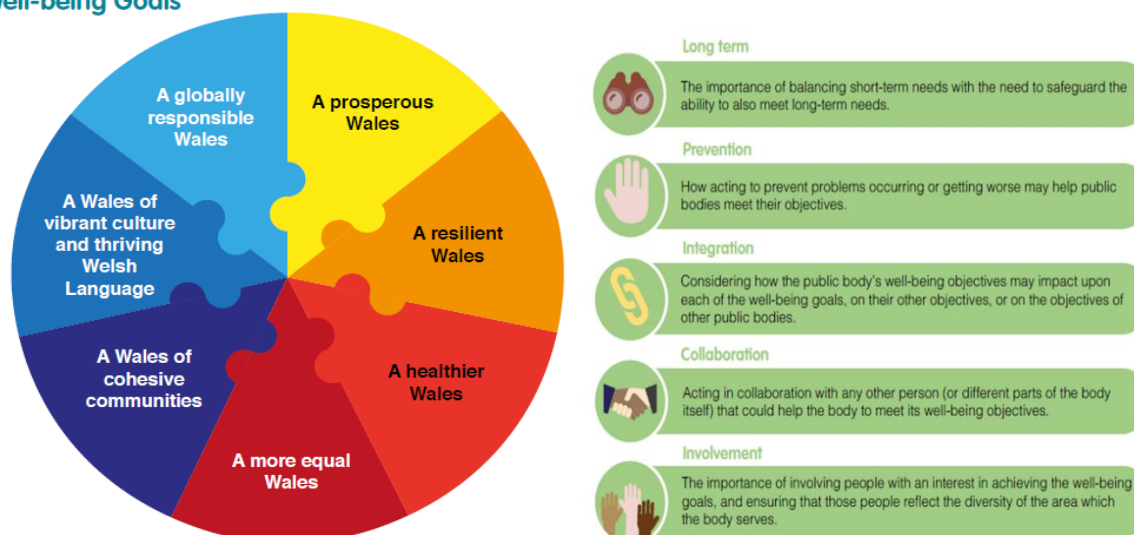
#### Well-being of Future Generations (Wales) Act 2015

The Well-being of Future Generations (Wales) Act 2015<sup>1</sup> is a unique piece of legislation which is about improving the social, economic, environmental and cultural well-being of Wales. It is intended to make public bodies working in Wales think more about the long-term, work better with people, communities and each other, look to prevent problems and take a more joined-up approach.

The definition of public bodies within the Act does not include water and wastewater companies. However, in 2015 Welsh Government also published their Water Strategy for Wales<sup>2</sup>, the priorities of which were strongly underpinned by the well-being goals (see Figure 3) as set out in the Act. As we strive to meet the expectations for water companies set out in the Strategy, we will work to embed the principles of the well-being goals into our water resources planning and business planning processes, and from there into our day-to-day working practices.

While there is potential for us to contribute to most, if not all, of the well-being goals, there are a couple that are particularly relevant to us in the context of the WRMP.

#### Well-being Goals



**Figure 3 - The seven well-being goals and five aspects of the sustainable development principle<sup>3</sup>**

<sup>1</sup> <http://gov.wales/topics/people-and-communities/people/future-generations-act/?lang=en>

<sup>2</sup> <http://gov.wales/topics/environmentcountryside/epg/waterflooding/publications/water-strategy/?lang=en>

<sup>3</sup> *Well-being of Future Generations (Wales) Act 2015: The essentials* – Welsh Government, May 2015



*A prosperous Wales – an innovative, productive and low carbon society which recognises the limits of the global environment and therefore uses resources efficiently and proportionately (including action on climate change); and which develops a skilled and educated population in an economy which generates wealth and provides employment opportunities, allowing people to take advantage of the wealth generated through securing decent work.*

Welsh Government have clearly indicated that there needs to be a move towards a more integrated management of our water resources. As one of the largest abstractors of water in Wales, we have a responsibility to help shape what that approach looks like, for example through the expansion of our current catchment management programmes, and seeking opportunities for collaboration with neighbouring water companies, NGOs, land owners, local industry etc.

By working more closely with our customers to explore opportunities for increasing and understanding water efficiency and demand management messages, we can help Welsh Government achieve their objective that the people of Wales recognise how valuable water is to Wales as a resource and to their daily lives.

Welsh Government recognise that a reliable source of water is essential to a thriving economy in Wales. By building a resilience and flexible WRMP for the future, and continuing to review how we interact with local authorities, developers and industry, we can ensure that access to a reliable water network is not a barrier to encouraging new industry into our supply area.

*A resilient Wales – a nation which maintains and enhances a biodiverse natural environment with healthy functioning ecosystems that support social, economic and ecological resilience and the capacity to adapt to change (for example climate change).*

In 2016, the National Assembly for Wales passed the Environment (Wales) Act 2016 which put in place the legislation needed to plan and manage Wales' natural resources in a more proactive, sustainable and joined-up way. The Act introduces a new duty on water companies in Wales, to maintain and enhance biodiversity, and promote the resilience of ecosystems; we will work with all relevant parts of the business to ensure this duty is delivered through our investment programmes and responsible management of our land assets.

We will build on our current catchment management programme and explore opportunities for achieving wider environmental benefits by working with landowners and other partners to encourage more sustainable working practices. By reducing the risk of pollution to water courses and addressing problems at source, we can reduce treatment costs and have year-round access to sources that currently have seasonal use restrictions.

*A healthier Wales – a society in which people's physical and mental well-being is maximised and in which choices and behaviours that benefit future health are understood.*

Welsh Government recognise that there are a wide range of benefits, both mental and physical, to be had from encouraging access to water. They also want to ensure that everyone in Wales has access to clean, wholesome drinking water.

We will be reviewing our impoundment reservoirs over the next couple of planning periods, both to see what can be done at source to improve water quality, so reducing potential for

taste and odour issues and reduce treatment costs, but also to assess potential for recreational use opportunities.

### Environment (Wales) Act 2016 & the biodiversity duty

As stated in the previous section, the Welsh Government have recently introduced a new piece of environmental legislation - the Environment (Wales) Act 2016. The Act will mean significant economic, social and environmental benefits for Wales. It has been carefully designed to support and complement the Welsh Government's work to help secure Wales' long-term well-being, so that current and future generations benefit from a prosperous economy, a healthy and resilient environment and vibrant, cohesive communities.

Section 6 of the Act introduces a duty on public authorities operating in Wales to *"maintain and enhance biodiversity in the exercise of functions in relation to Wales, and in so doing promote the resilience of ecosystems, so far as consistent with the proper exercise of those functions"*. The definition of public authority in this instance does include water and wastewater companies.

We recognise that we have the potential to have a significant impact on a wide range of ecosystems in Wales, and to ensure that we maintain and enhance biodiversity and promote the resilience of ecosystems in the exercise of our functions we will:

- Be a responsible environmental steward by minimising the impact of our activities, ensure we have robust environmental control systems and work within our catchments to reduce risk to quality and enhance ecosystems.
- Maintain and enhance biodiversity, and promote the resilience of ecosystems through our investment programmes and responsible management of our land assets.
- Ensure all employees are aware of the impact of their activities on biodiversity and ecosystems through the development and implementation of relevant training.
- Develop plans for asset improvement based on robust environmental impact assessments and ecological surveys to identify any potential impact on biodiversity. Where potential impact is identified, we will seek to introduce ways of working that minimise the impact as well as seeking opportunities to enhance the resilience of the local ecosystems through the asset improvements.
- Have regard to the Welsh Government's National Natural Resources Policy (due to be issued in mid-2017), which will set out their priorities in relation to the management of natural resources in Wales.
- Develop a robust catchment management programme which will take account of findings set out in Natural Resources Wales' State of Natural Resources Report (SoNaRR)<sup>4</sup> and the subsequent Area Statements. We will also refer to the Welsh Government's Nature Recovery Plan for Wales<sup>5</sup> to identify any actions that we can help to deliver while enhancing the quality of our water resource assets.

---

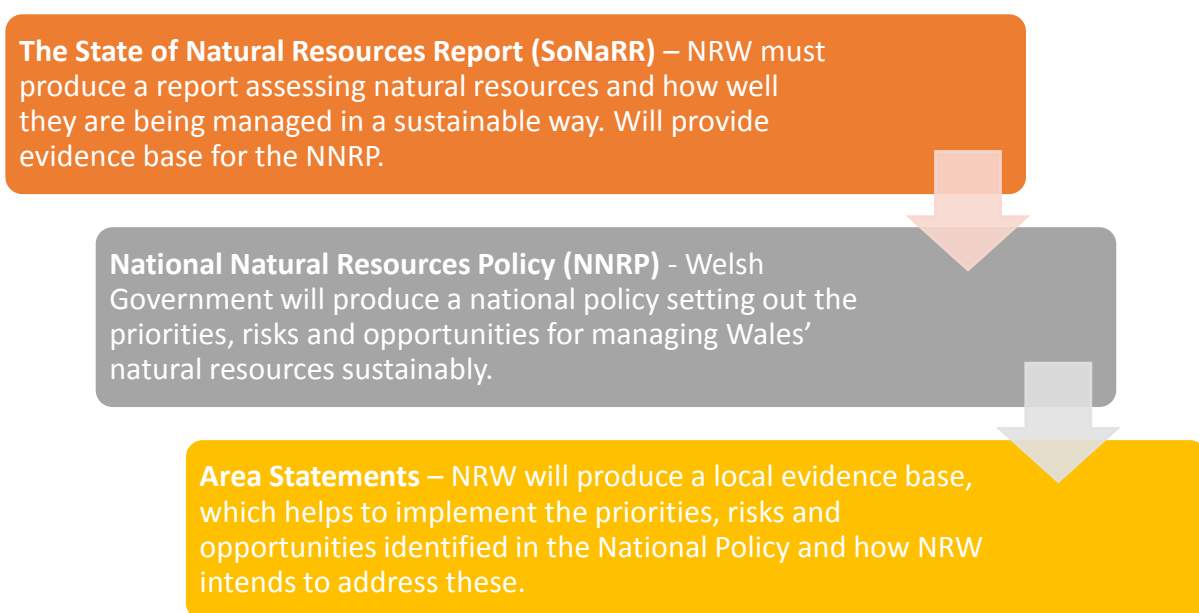
<sup>4</sup> <https://naturalresources.wales/evidence-and-data/research-and-reports/the-state-of-natural-resources-report-assessment-of-the-sustainable-management-of-natural-resources/?lang=en>

<sup>5</sup> <http://gov.wales/topics/environmentcountryside/consmanagement/conservationbiodiversity/?lang=en>

- Continue to work closely with industry partners to identify opportunities for increasing our resilience, and that of the ecosystems we work in, to the effect of climate change.
- Seek opportunities for working with partners and local communities to maintain and enhance the biodiversity at our publicly accessible sites. We will also consider whether any of our sites which are not currently accessible could be made so, to increase their value to the local community as well as providing opportunities for better maintaining the resilience of their ecosystems.

### Sustainable management of natural resources

The Environment (Wales) Act 2016 introduced a new approach to managing the essential natural resources of Wales – *sustainable management of natural resources (SMNR)*. The SMNR approach is designed to ensure that the use of and the impacts on our natural resources do not result in their long term decline. The aim is to sustainably manage natural resources in a way and at a rate that meets the needs of the present generation without compromising the needs of future generations, while contributing to the seven well-being goals. Figure 4 illustrates the framework which will support the delivery of this approach.



**Figure 4 - Welsh Government / NRW's framework for delivering SMNR**

While the SoNaRR sets out the Wales-wide baseline for the current state of natural resources, Area Statements will form the main evidence base that we can feed into and refer to when developing our future investment programmes. We will need to work closely with NRW and other key stakeholders to understand what the Area Statements might mean for us; the key risks and issues, and associated mitigating actions that water companies can have an impact on.

We will need to continue to work closely with key stakeholders and our Customer Challenge Group to help engage with our customers to ensure they understand and accept solutions

that may be more costly but will deliver wider, long term social, economic and environmental benefits.



## 4 Our approach to water resources planning

Our dWRMP18 explains our long term plans to accommodate the impacts of population growth, drought, our environmental obligations and climate change uncertainty in order to balance supply and demand.

We began working on this dWRMP18 in 2016 to understand new and emerging future water supply / demand challenges, and to explore the options available to us. We have used our in-house expertise in hydrology, hydrogeology, ecology, engineering and economics to define and quantify risks and future supply / demand scenarios. We have also called on a number of specialist consultants and partners to help us develop the recommendations set out in our dWRMP18. Throughout the development of this plan, we have shared our emerging thinking with technical specialists at Natural Resources Wales, the Environment Agency, and other expert stakeholders to understand their views.

### Forecasting our supply

Our forecast of supply is based on how much water we can take from our sources, and how much of this water can then be put into the supply network for our customers. The majority of our water comes from the River Dee, with additional water taken from our nine impoundment reservoirs, a spring source near Llangollen and a groundwater source at Mickle Trafford. The amount that can be taken ('abstracted') from each source is set out in abstraction licences issued by the Environment Agency or Natural Resources Wales (NRW). Using modelling carried out by NRW, we applied reductions to our abstraction limits based on possible impact of climate change over the planning period. This gives us a value called the deployable output; we then add any imports from neighbouring water companies, deduct any exports and water used at treatment works, to give us a value referred to as water available for use. This is the maximum amount of water that can be put into the network to meet demand.

### Forecasting our demand requirements

Our forecast of demand is based on predictions of population and housing growth, changes in water use behaviour, as well as commercial and industrial demand we think will have to be supplied, and the amount of water that will be lost through leakage.

We project the rate of population growth using statistics produced by Welsh Government's Statistics for Wales department and the local authorities covering our supply area. We forecast the amount of water used by the population based on current per household usage and how we think this will change over time due to increasing awareness of water use and more efficient appliances (washing machines, dishwashers, toilets etc). For our commercial customers, we consider growth trends based on previous years' demand compared with how the economy is expected to perform over the next few years. We also discuss possible developments with the local authorities and build additional demand into the forecast where we know that significant developments are likely during the planning period – for example, a

new power station is due to come on line in the next couple of years, and a new prison opened in Wrexham in 2017.

Customers and Stakeholders in Wales have given clear messages about their desire to see reductions in leakage. In the customer deliberative workshops some customers expressed a view that Dee Valley should do more to reduce leakage, and while this view was expressed without any insight into the costs/ economics of leakage reduction, we know that simply holding it flat or a nominal reduction will not meet their expectations. At the same time Welsh Government, NRW and Ofwat want us to be ambitious, with Ofwat setting an expectation of at least 15%.

We are proposing a DVW leakage reduction plan that balances customers' and stakeholders' expectations that we should be ambitious, with the supply / demand economic case for reducing leakage. As a result we are proposing a leakage reduction plan that achieves a 15% reduction by the end of AMP8. We will aim to deliver this reduction without the need for an increase in customer bills, and instead we will deliver it through a variety of interventions, including efficiency, targeted pipe replacement and network optimisation. Making these leakage reductions without increasing supply / demand expenditure means that we can be confident that the leakage proposed in the DVW plan is a cost effective and sustainable long-term solution.

### Allowing for uncertainty

Once we have determined how much water will be needed, we add on a buffer – known as 'headroom' – to allow for any unusual events which can't be planned for. Headroom is derived using an industry best practice method to ensure all contributing factors are considered, including the possible impact of climate change on supply and demand.

### The supply-demand balance

The final stage of the process is to compare the amount of water that can be supplied with the expected amount of demand required plus the headroom. This gives us a value called the 'supply-demand balance'; from this we determine whether there is a deficit or surplus of water across the planning period.

If we were seeing a deficit at any point in the forecast, our WRMP19 would have to include solutions as to how we would close this gap in the supply-demand balance. This could include looking for new sources of water; entering into water trading agreements with other water suppliers; increasing our investment to reduce leakage; increasing demand management work with our customers.

Based on the supply and demand projections set out in this WRMP19, we believe that we will remain in surplus for the planning period and therefore are not considering any 'supply side options' (i.e. new sources or water trading). However, Welsh Government and NRW have indicated in their guidance that, even if there is no deficit, we should consider options to improve our service to customers, provide long-term best value, benefit the environment or collaborate with other water companies on strategic options. We have therefore considered options for:

- reducing leakage on our network,
- increasing our demand management work with current and future customers,
- improving the resilience of our impoundment reservoirs and reduce our reliance on the River Dee abstractions, and
- expanding our current catchment management programme to protect the quality of our water sources.

### Assessing our impact on the environment

As a water company based wholly or mainly in Wales, there is a mandatory requirement to undertake a Strategic Environmental Assessment (SEA) for our WRMP. This is a formal process for assessing the effect of a plan or programme on the environment, the aim of which is to provide a high level of protection to the environment and to promote sustainable development by the integration of environmental considerations into the preparation and adoption of plans or programmes. For WRMP14, we carried out an internal review of the scoping assessment undertaken at WRMP09 to determine whether there had been any significant changes that might result in a full SEA being required. The review determined that a full SEA was not needed.

Since our WRMP14, there have been a number of significant legislative changes in Wales, including the introduction of the Water Act 2014, Well-being for Future Generations (Wales) Act 2015 and the Environment (Wales) Act 2016. . In recognition of these significant policy changes we felt that a more thorough SEA review was required for WRMP19. We commissioned Atkins to carry out an initial scoping assessment to determine whether a full SEA was required. In addition, as the River Dee is designated as a Special Area of Conservation (SAC) under the EC Habitats Directive, we asked Atkins to undertake a Habitats Regulations Assessment. This is a formal assessment required for any new plans or projects with potential for affecting the designated interest features of European Sites. No significant concerns or issues were identified. Copies of these reports will be published alongside the dWRMP as part of the consultation.

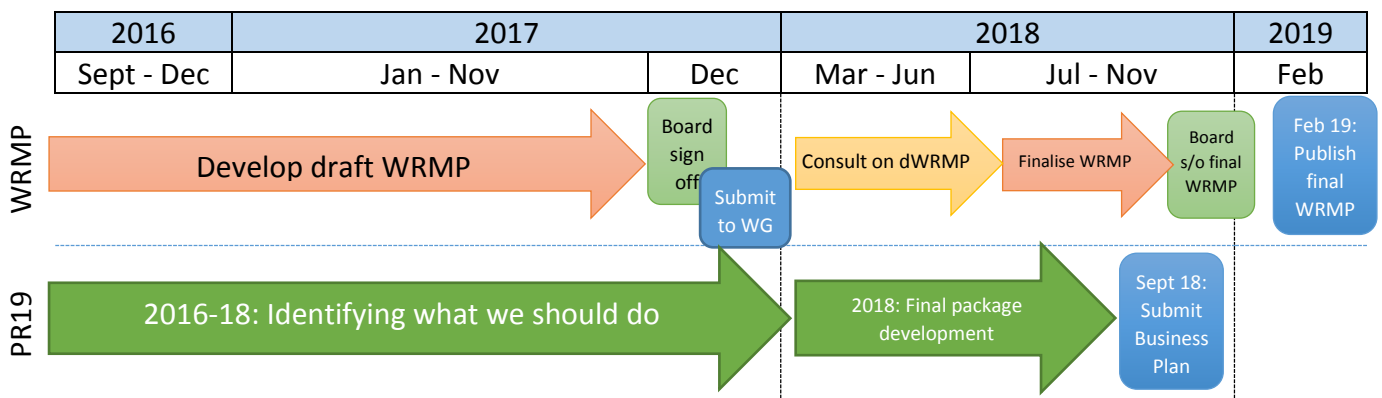
### Links to other planning processes

The WRMP forms part of our wider business planning process, which runs in five yearly asset management planning (AMP) cycles. The investment which will take place during each of these AMP periods is determined through a periodic review (PR) of our business plan and assessed by our economic regulator Ofwat. We are currently in AMP6 (2015-2020) and development of our PR19 business plan – which will span the AMP7 period, running from 2020 to 2025 – started earlier this year. Any investments needed to achieve our proposed approach to water resources management planning will be built into the PR19 plan. Figure 2 shows how the two processes fit together.

In addition to the fundamental duties referred to earlier, the Water Industry Act 1991 also sets out a duty for water companies to prepare and maintain a drought plan. This is a plan for how we will continue, during a period of drought, to discharge our duties to supply adequate quantities of wholesome water, with as little recourse as reasonably possible to drought

orders or drought permits<sup>6</sup>. Our plan maintains our ability to ensure that we should not need to impose temporary usage bans on our customers any more frequently than once every 40 years, which is the equivalent of a 2.5% change over the next 25 years.

We are required to review and publish a revised drought plan every three years and as such, will be carrying out our next review in 2018. For WRMP19, Welsh Government and NRW have indicated that they want to see evidence that we have based our supply forecast on an appropriate design drought, and a drought resilience statement which reflects the hydrological risks that drought imposes on our supply system. This will mean that there is a much clearer link between the WRMP and drought plan than in previous planning cycles.



**Figure 5 - WRMP / PR19 timelines**

<sup>6</sup> Drought Orders and Permits are a means by which further action can be taken to mitigate the impact of a drought by either increasing water supply or further restricting water use.



## 5 Our long term water resources strategy

This is our fourth published WRMP, and the outlook for water supply and demand remains consistent with our previous plans. Our best estimates of the future demand for water and the risks to our water supplies tell us that we expect to maintain a supply surplus over at least the next 25 years. As a result, we do not foresee any need to develop new sources of water supply. Our long term strategy is, therefore, to focus on reducing leakage, increase the use of demand management and to protect our sustainable sources of supply.

When developing the proposals in this dWRMP18, we have sought to strike a balance between the economic case for supply / demand investment, and meeting the expectations of our customers and stakeholders. Because we do not expect a supply / demand shortfall, there is no compelling need to invest in further improving the supply / demand balance. However, we know that customers and stakeholders want us to be more ambitious in our leakage and demand management thinking, and we believe that going forward we can better meet these expectations in an affordable way.

Below, we explain how we propose to achieve our long term strategy. Supporting details on how we have derived the recommendations in our dWRMP18 can be found in the accompanying technical appendices.

### Reducing leakage on our network

Leakage currently makes up 15% of the total amount of water we put into supply. Because there was no supply / demand need, our WRMP14 set out proposals to simply hold our long term leakage levels constant at around 10MI/d.

Our latest dWRMP18 proposes a more ambitious leakage reduction target. While there is no supply / demand driven need to reduce leakage, we want to do so in recognition of the views expressed by our customers and stakeholders. Throughout our ongoing consultation, we have heard that leakage is a key concern and that we should do more to reduce it. At the same time, Government and our regulators have made clear that they expect water companies to adopt challenging leakage reduction targets in their WRMP. Ofwat has gone as far as setting an expectation that companies should reduce leakage by at least 15%.

Based on our understanding of regulators' policy expectations, stakeholder's views and consideration of how our wider PR19 improvement plans will deliver associated leakage benefits, we recommend that we adopt a leakage reduction plan that achieves a 15% reduction by the end of AMP8. We will deliver this through a variety of interventions, including innovative pipe and tank repair technologies, targeted pipe replacement and optimising water pressure on our network. Delivering these improvements without increasing supply / demand expenditure means that we can be confident that the leakage reduction proposed in this dWRMP18 is a cost effective and sustainable long-term solution.

Taking the proposed approach over the next 10 years allows us to optimise how we meet this ambitious target without impacting on customer bills.

The leakage reduction targets proposed in the dWRMP18 are shown in table 1.

	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
<b>Chester</b>	0.0	0.0	-0.1	-0.1	-0.2	-0.3	-0.3	-0.3	-0.4	-0.4
<b>Wrexham</b>	0.0	0.0	-0.2	-0.4	-0.5	-0.6	-0.8	-0.9	-1.0	-1.1
<b>Total</b>	0.0	0.0	-0.2	-0.5	-0.7	-0.9	-1.0	-1.2	-1.3	-1.5

**Table 1 - DVW draft WRMP leakage reduction profile (MI/d)**

## Water efficiency and demand management

For AMP 7, we have made a decision to increase our baseline water efficiency programme to undertake as a minimum the same level of activity as we offer our wider Severn Trent customer base. This will ensure we meet our on-going statutory water efficiency duty as well as helping customers reduce their demand for water.

In line with our wider water efficiency programme and our understanding of customer, regulator and Government expectations, we will offer a range of water efficiency services to our customers. We expect the key metrics to deliver on our statutory duty will be:

- Provide information to all consumers on how to save water. This includes maintaining our provision of direct engagement with schools and adult groups and providing information for non-household customers.
- Provide a range of water saving products which are free to customers on request.
- Provide discounted higher value water saving products (e.g. water butts, showerheads).
- Develop links with third parties to form partnerships – internal and external - to take advantage of scheduled visits to promote water efficiency and to retrofit water efficient devices.
- Provide water efficiency advice and access to free water saving devices as part of our free meter optant programme (FrOpt).

Over time the balance between free products, product installation, and education may change in response to the available opportunities and customer expectations.

In developing our proposals, we have made reference to:

- Environment Agency (EA) / Natural Resources Wales (NRW) Final Water Resource Planning Guidance.
- Defra Guiding Principles for water resource planning
- Water Strategy for Wales
- Waterwise Evidence Base Reports

- Market Transformation Programme
- Waterwise Water Efficiency Strategy for the UK
- Our own water efficiency programme and, consumption modelling forecasting analysis

To inform our dWRMP18, we have assessed the viability of a range of potential additional water efficiency options building on insight gained from Severn Trent Waters programme and have identified the following options to be appropriate for inclusion in the baseline programme:

- **Free and paid water efficiency products:** We will increase the range of free and paid for water efficiency products offered to customers. The improved product offers will align the levels of service offered to customers in the Severn Trent region
- **Home Water Efficiency Audits:** We will carry out proactive water efficiency audits and install water efficient products in our customers' homes (HWEA).
- **Customer education:** We will continue to engage and educate customers on how to use water wisely. Over time, opportunities to retrofit water efficient devices will reduce. Engagement and education to promote behaviour change will become increasingly important to help customers reduce their demand for water.

The size of the programme is constrained by the number of household customers and assumed uptake rates. Our proposed approach has been successfully trialled during AMP6 in the Severn Trent area with an uptake rate of approximately 20% which we expect to be maintained.

### Metering

Our previous Water Resource Management Plans have set out an ongoing approach to household metering that has been led by customer demand for the free meter option. This has resulted in a meter penetration of 60%. We are proposing to continue this approach for AMP7 and beyond.

### Catchment management

Since publishing our WRMP14 and in preparation for PR14, we undertook risk assessments in relation to the presence of pesticides – namely MCPA and metaldehyde – in the River Dee catchment, and their potential impact on our treatment works in Chester. We proposed a programme of catchment management activities to reduce the usage of the pesticides by local landowners and avoid the installation of costly removal treatment.

This proposal was supported by the Drinking Water Inspectorate and in partnership with United Utilities and the Welsh Dee Trust, we set up a Catchment Management Programme.

Since November 2015, the programme has funded two Catchment Advisors (CAs) - employed by the Welsh Dee Trust – to cover the Middle Dee and the Upper Dee. Their key role is to

engage with landowners and local pesticide suppliers with the aim of reducing the use of metaldehyde and other problematic pesticides in the catchment.

The programme includes a range of activities including:

- Active monitoring programme through fortnightly distribution of 'chemcatchers'<sup>7</sup> across the catchment.
- Subsidised MOTs for sprayers and weed wipers
- Free weed wiper hire
- Free pesticide collection and disposal service
- Subsidised ferric phosphate slug pellets to encourage use of these as an alternative to metaldehyde pellets
- Accredited sprayer and weed wiper operation training
- Grassland management events
- Farm 'health check' audits to look for improvements to practices which could reduce pollution risk – for example, slurry storage; site drainage; fencing of fields running adjacent to water bodies to reduce bank damage by cattle.

In addition, the Catchment Advisors regularly attend local agricultural shows and events to raise awareness of the programme and have developed a good network of contacts with local suppliers, agronomists and special interest groups within the farming community to share the messages. Interest in the various activities and offers has been high, although actual uptake in some cases has been slow but we have seen a gradual increase in take up and willingness to engage with the programme.

Going forward, we are looking to build on our successes by expanding the offer to landowners; for example, providing funding for improvements at farms in high risk areas of the catchment. We will continue to work with the partnership groups within the catchment to identify opportunities for collaboration and widening the benefits to the environment and local communities.

In addition to the main Catchment Management Programme, we are also members of the Dee Catchment Protection Group, a working group of the Dee Steering Committee which oversees the water quality monitoring programme for the River Dee.

Set up in May 2017, the group consists of representatives from Dee Valley / Severn Trent, United Utilities, Dwr Cymru Welsh Water, Natural Resources Wales and Environment Agency. The aim of the group is to coordinate catchment activities in supporting the objectives of the Dee Steering Committee with specific objectives to provide intelligence from catchment teams regarding potential risks to abstraction which require monitoring; coordinate catchment activities in response to abstraction risks highlighted through incidents and routine sampling undertaken, and coordinate promotion of the River Dee as a drinking water source and some of the challenges to quality from activities within the catchment.

---

<sup>7</sup> Chemcatchers are small metal cylinders which contain absorbent discs. These are placed in flow of the water body for two week periods and the discs absorb any pesticides that might be in the water. The discs are sent away for analysis, with particular focus on checking for presence of acid herbicides and metaldehyde.



## 6 Understanding our customers and stakeholders views

A vital part of long-term planning is engagement with our customers and stakeholders, including regulators, neighbouring water companies, non-governmental organisations (NGOs) such as wildlife trusts, and representative bodies such as farmer's unions. We are legally required to carry out 'pre-consultation' discussions with certain statutory consultees, namely NRW, Ofwat and any licensed water suppliers that supply water to premises in our area through our supply system.



**Figure 6 - WRMP engagement activities**

One of the key engagement activities in the development of the WRMP19 has been the technical stakeholder forum. We held two sessions in June – one in Newtown, Powys and one in Wrexham – at which we provided an overview to our approach for developing the WRMP and our PR19 business plan. As part of the forums we encouraged open discussions about a number of topics and collated the resulting feedback. These have been shared on the main Severn Trent website<sup>8</sup> along with copies of the presentations given at the forums. Some common themes came out of these discussions including the need to explore more opportunities for collaborative working with NGOs and local authorities, particularly in relation to the biodiversity duty; communications relating to leakage and demand management need improving to bring customers on board; our approach to WRMP19 and wider strategic planning needs to clearly link to Welsh Government policy and objectives.

We held our final pre-consultation forum in September, in Wrexham, where we presented a more detailed view of our findings and what the draft plan was likely to include. We focused

<sup>8</sup> <https://www.severntrent.com/about-us/future-plans/water-resource-management/water-resource-management-plan/>

particularly on the supply-demand balance findings and drought resilience. We also had a more detailed discussion about the proposed demand management approach. The group discussion sessions in this forum yielded some interesting thoughts on future catchment work – for example, the need to better understand future risks to water quality from potential changes in land use in the Dee catchment.

There were some great suggestions as to how we could better engage with schools, including looking at possible joint water company campaigns and working with Welsh Government to have these worked into the national science curriculum. There were also some suggestions about how partnership working could be an effective way of securing the supply demand balance from other hazards (not just drought), such as the risk from flooding.

The feedback from these forums has been invaluable for developing, not only this dWRMP18, but also our thinking around catchment management approaches for our Welsh areas and better future engagement with our customers and key stakeholders in Wales.