



sembcorp
bournemouth water

Water Resources Management Plan

non-technical summary

2014

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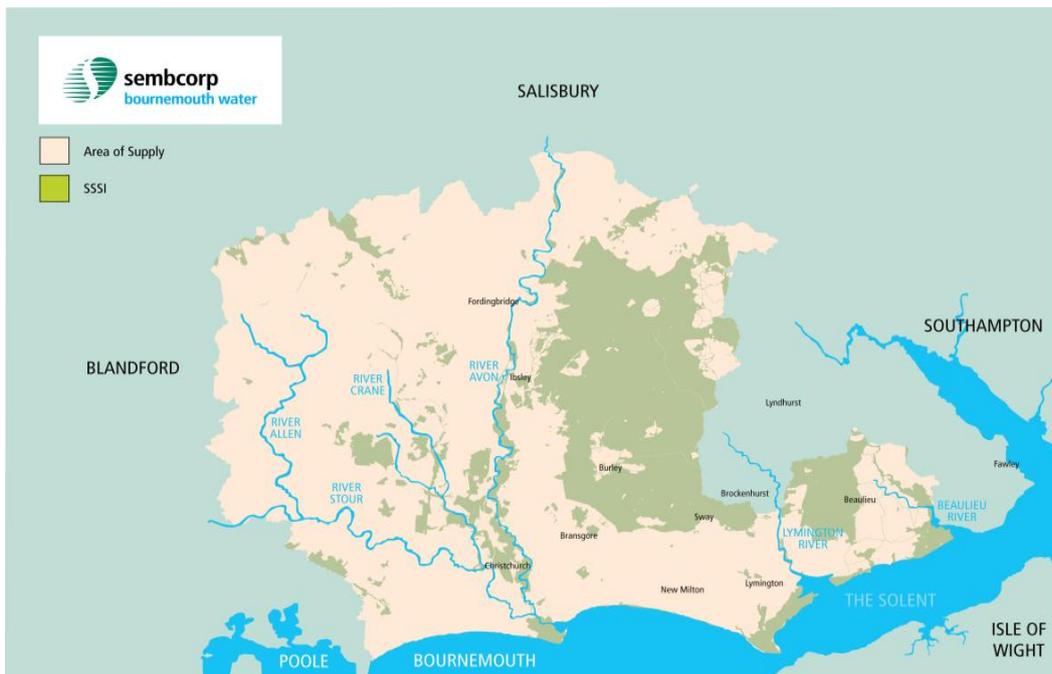
1 Overview and summary of plan

This is a summary of Sembcorp Bournemouth Water’s final Water Resources Management Plan (WRMP). As required by law, our plan went through a period of public consultation in order to obtain the views of our customers and other interested parties. We have considered all the representations received and provided clarification to all queries in the Statement of Response and associated Addendum to the Statement of Response. These documents can be found in Appendix 12 of the Final WRMP technical document. There have been no material changes to the plan between the draft and final versions.

The WRMP consists of the following documents

- The final Water Resources Management Plan non-technical summary
- The final Water Resources Management Plan Technical Report
- The final Water Resources Management Plan Technical Appendices

Figure 1.1 The area we supply



*SSSI=Site of Special Scientific Interest

1.1 Water resources planning

Public water supply is one of the most essential services to the community. It is important that we ensure that we will have sufficient water for the needs of our customers into the future and that we manage the uncertainties associated with forecasting the demand for water and the amount of water we are able to supply. Finding and developing new water resources, should they be needed, is a lengthy process. Therefore it is important that we look well into the future when planning.

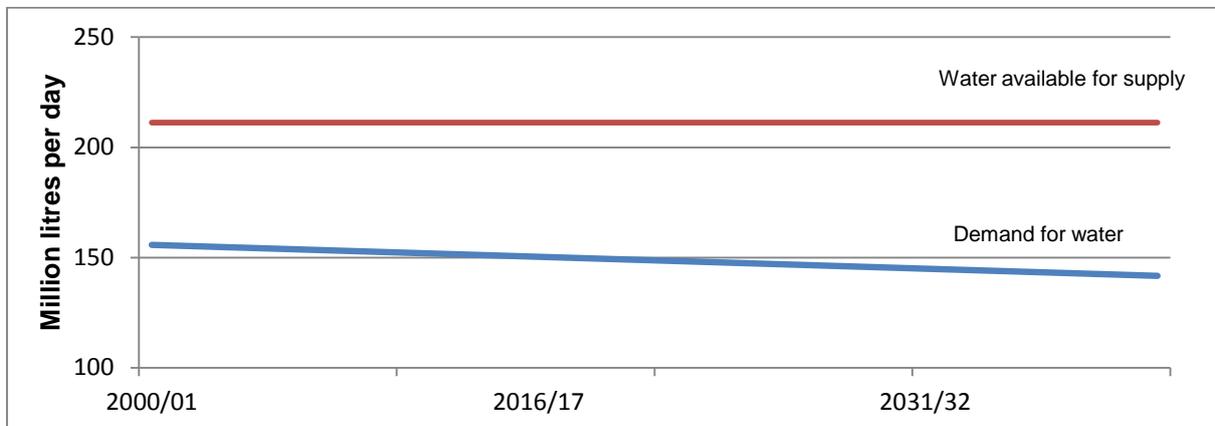
We are required by law to formally review our WRMP every five years and review performance against the plan on an annual basis. In planning for the future, we look ahead at least 25 years taking into account forecasts of population growth, housing development and commercial industrial development. These forecasts are then used to determine trends of water use for our various customer groups.

In addition to demand forecasts we assess the current and likely future availability of water from our sources. This allows us to determine how much water we have available for supply purposes over the 25-year planning period.

Comparing forecasts of how much water we can supply with how much water our customers will need both now and in the future enables us to see whether we will have sufficient water to meet their requirements. When doing this we need to make an estimate of the potential for failure of any of our sources. We also need to account for possible changes between actual and forecast supply and demand that occur when planning over a period as long as 25 years. The allowance that we make to account for these uncertainties is known as headroom and ensures that we always have a margin of safety.

The chart overleaf shows the historic and predicted trend in water use compared with the water available. From the analysis of our supply and customers' demand, we are confident that we have sufficient water to meet customer needs well into the future. In addition, our customers have been consistently using less water since the late 1990s as a result of our strategic focus on demand management and we believe demand for water will continue to reduce steadily in the future.

Figure 1.2 Water available for supply compared with demand



Our focus for maintaining a positive supply-demand balance, where the available amount of water is greater than the demand, has for some years been on managing demand.

We believe that demand management, rather than developing new sources of water, continues to be the best option for the following reasons:

- We obtain most of the water we supply from two rivers, the Avon in Hampshire and the Stour in Dorset. We also operate a number of boreholes. The nature of these sources means that we rely on water being there when we need it. We do not have the ability to store water for later use. Therefore managing demand is vital to ensure the resilience of our supply of water.
- Our supply area covers some of the most environmentally-important locations in the region, including the Avon Valley, Christchurch Harbour and parts of the New Forest. Options for new water resource developments are therefore extremely limited and have very high environmental costs.
- In the past the water supply system has experienced high demand during the summer months, mainly due to garden watering and to large numbers of visitors. Our residential profile is notable for a higher-than-average number of detached houses and large gardens. By implementing effective demand management activities we can ensure that the risks posed by high summer demand are controlled in a cost-effective manner.

1.1.1 Links to the company Business Plan (BP)

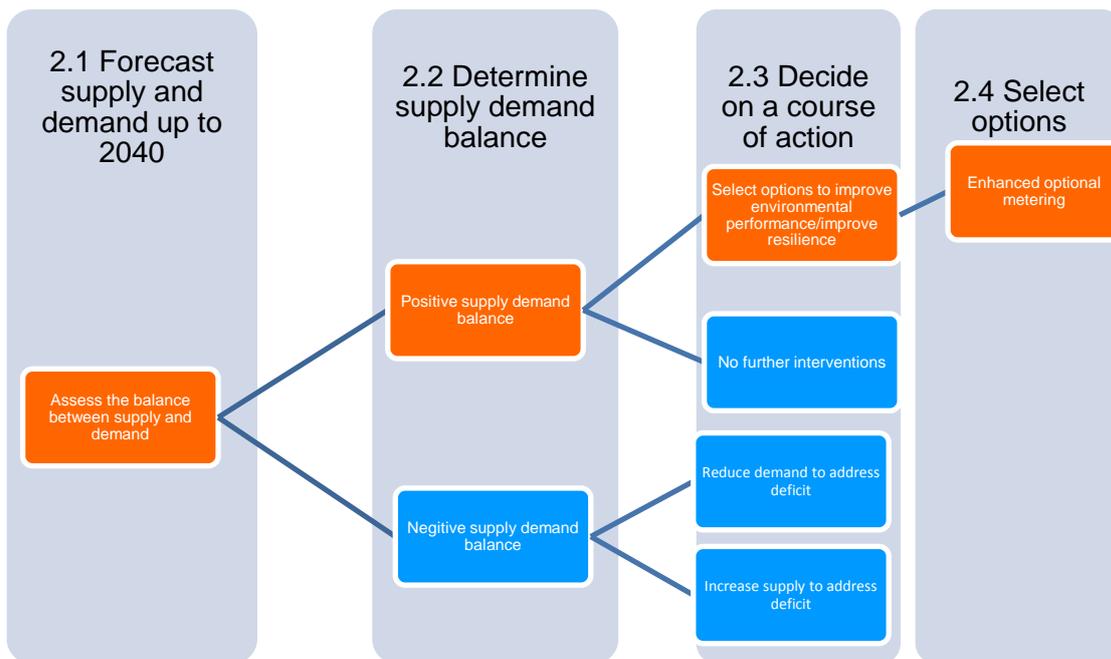
In addition to the WRMP companies are also required to submit a Business Plan (BP) to the water industry regulator Ofwat every 5 years. The next round of BP's will be published in 2014. The BP details how a company will run its day to day operations over the period in question in the most efficient way and providing the best service to customers.

The BP and Water Resources Management Plan (WRMP) are integrally linked. Any potential shortfalls in the ability to supply water and the solutions to mitigate these are evaluated in the WRMP; the financing required to implement the solutions is assessed through the BP process.

In our circumstances we do not have a shortfall in supply and therefore do not have any options proposed as part of the WRMP. We do however have certain measures that form part of our 2014 Business Plan that have spin off benefits for managing our water resources in a sustainable manner. These measures include leakage reduction and increasing the number of metered properties. These are described in more detail in the sections below.

2 The water resources planning process

The figure below illustrates the water resources planning process. We discuss each stage and the decisions we have taken at each of these stages below.



2.1 Forecast supply and demand up to 2040

Supply and demand is assessed for the period up to 2040. We take the likely changes in population and properties in our area into account as well as changes in behaviour and the technology of water-using appliances. We also estimate the predicted changes to non-household property numbers and the expected trends in demand to forecast non-household demand.

To predict the amount of water that our sources can supply in future we assess the impact that possible climate change scenarios could have on groundwater levels and river flows.

2.1.1 Future impacts on water supply

Climate change represents one of the greatest uncertainties facing a water company. The water industry may be directly affected by climate change as a result of the impact it has on weather patterns. Changes in rainfall and temperature could have widespread impacts on our ability to supply water, as well as on customer demand.

As part of our planning we need to ensure that all our sources will continue to provide the water we need to supply our customers. We have conducted reviews of both surface and groundwater sources to determine the potential impacts that climate change may have.

The results of the analysis show that climate change will not inhibit our ability to supply our customers.

2.2 Determine supply-demand balance

Our customer demand for water is declining and the assessment of our sources of water show that they are resilient and capable of supplying our needs well into the future. We are therefore in a position where the risk of customer demand for water exceeding the amount we can supply is extremely low.

Although we have a surplus, it is of the utmost importance that we continue to reduce demand for water. This is because our area of supply does at times experience very high demand over the summer. This puts strain on the environment especially as the high demand occurs during dry conditions.

By continuing our demand management activities we can ensure that high demand is kept under control. This will alleviate pressure on our supply system and the environment during times of water stress.

2.3 Decide on a course of action

In our case, having developed a forecast showing that we have sufficient water to meet demand for at least 25 years, we are faced with two options:

2.3.1 No further action

A company with sufficient water does not need to take any further action to manage supply and demand beyond continuing with current policies for managing its sources of water, encouraging its efficient use and keeping its plan under regular review.

We have not selected this option.

2.3.2 Do the right thing

As a responsible company we believe that 'doing the right thing' is the right course of action.

- Even though we have forecast that we will have sufficient water for the next 25 years we must do what we can to encourage its efficient use.
- We must also work in a manner that ensures our activities are effectively planned and managed so as to have the least possible impact on the environment.
- We must also take our customers' views into account when deciding on a course of action for managing our water resources.

During research conducted between 2012 and 2013, our customers told us that their priorities are:

- A continuous supply of clean water
- Prompt repair of leaks
- Minimising temporary interruptions to supply
- Communication and education on reducing waste
- Metering as the fairest method of charging

Importantly, our customers acknowledged that our water quality is very high but take that quality as a 'given' (to the point where it was not one of their main priorities).

We provide details below of the activities we already undertake which work to deliver these key drivers. In section 2.4 we describe how we will continue to manage demand through our consistent and accepted policies and how these policies will be further enhanced to achieve a dependable and sustainable supply of water well into the future.

Ensuring a continuous supply of clean water

As we have pointed out earlier, our sources of water are able to provide a continuous supply throughout the 25-year planning period. Our demand management policies will also ensure that we maintain this continuous supply of water in a cost-effective manner, with the least possible impact on the environment.

In addition to our metering activities, we constantly aim to improve the management of our assets. Over the past five years we have increased the amount of water mains renewals. This has the effect of both reducing leakage and making our network more resilient leading to fewer supply interruptions. Where it is cost effective and supported by our customers, we will continue to make improvements to the overall reliability of our system of assets so as to minimise the risk of failure for any reason.

Prompt repair of leaks and minimisation of interruptions to supply

We have consistently kept our levels of leakage below the sustainable economic level of leakage (SELL). This is the level below which further leakage reduction becomes more expensive than the water that is lost. Although we are operating below the SELL, we aim to constantly improve our performance in this area. Our customers support this approach and therefore we aim to reduce leakage by 5% from current levels by 2020.

Reducing leakage has the benefit of allowing more water to be available for our customers and the environment. We have made significant progress in recent years in managing leakage across our area of supply through the following:

- The majority of the company's network of water mains is continuously monitored allowing for a quick response to leaks.
- Large water mains are inspected on a regular basis to check for signs of leakage.
- We have a dedicated team of leakage technicians who monitor performance of our network and respond as necessary using a variety of techniques to locate leaks.
- Our storage tanks are regularly inspected internally and leak tested.
- We monitor all metered customers for higher than normal usage, alert them if we notice any unusual increases in use, and offer customers free supply pipe repairs and subsidised supply pipe replacement if the leak is found to be coming from their supply pipe.
- As excessive pressure in water networks increases leakage, we actively manage the pressure of our network, reduce excessive pressure and therefore control leakage.

We continually assess ways of improving the proactive management of our network and increasing the efficiency of our activities to ensure that we provide a cost-effective, sustainable supply of water.

Managing demand

We have experienced a gradual but significant reduction in demand since the implementation of current metering policies in 2000. We attribute this to changes in customer attitudes and behaviour towards water use. This has been brought about by a combination of metering, water-efficiency activity and a general increase in awareness among members of our community of the need to use water in a more sustainable manner.

From our forecasts we anticipate a surplus of water throughout the entire planning period and therefore do not propose to develop any new water resource options. In section 2.4 we discuss our proposals for increasing meter penetration and reducing leakage by 5% from current levels.

Communication and education

Changing behaviour is a critical factor in reducing customer demand. This can only be achieved through raising awareness and educating customers to use water in the most sustainable manner.

We have devised a water-efficiency strategy based around metering and enhanced communication and education activity with our customers. This work will be in addition to our current water-efficiency activities which include:

- Provision of free water-efficient devices
- Gardening advice
- Advice on how to self-audit
- Schools education programme
- Subsidised water butts
- Non-household audits and online information
- Community events
- Online advice and tips

Metering

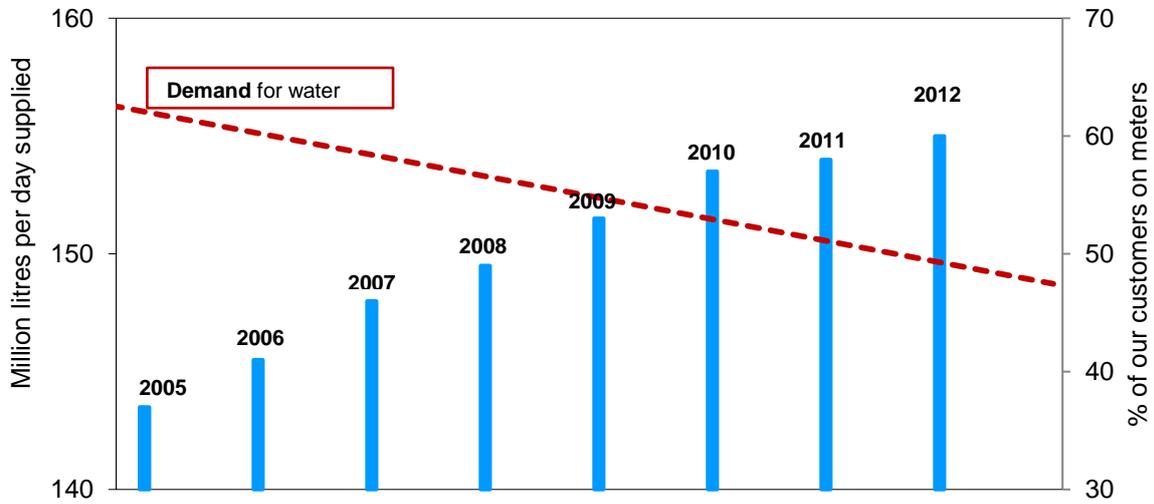
Customers whose supply is metered generally use less water. A widely-accepted figure is that metered customers use around 10% less water than those without a meter.

Our existing metering policies include:

- Metering of all non-household properties
- Metering of all new properties
- Promoting active switching to metering
- Metering households on change of occupier

These policies have been in place for a number of years and have been instrumental in managing demand. Since 2005, we have installed approximately 38,000 meters and the figure below illustrates the reduction in demand with the increase in the number of metered properties during this time. Demand continues to decline even though the number of properties we supply grows each year.

Figure 2.1 Percentage of our customers on meters compared with demand for water



2.4 Select options

We have sufficient supplies to meet demand for the entire 25-year planning period. However, as stated previously, we want to ‘do the right thing’ for the environment and our customers. We also recognise the need to continually improve our performance and therefore, subject to customer willingness to pay, we propose to revise our current metering practices and reduce leakage by 5% from the current levels by 2020.

2.4.1 The development of company policies for metering

Whilst all commercial and industrial customers are already metered where it has been possible to do so, for household customers, the situation is very different. Currently around 62% of households have meters.

In the early 1990s nearly all households paid a fixed charge for their water supply which was linked to the rateable value of the property. Charging for water in this way provides a poor means of estimating the amount of water a property may use and does not encourage the efficient use of water. As stated previously, once metered, households use approximately 10% less water.

Since 1990, all newly-built properties have been metered. In 1997 it became the right of the customer to be charged in relation to the volume of water that they use and the obligation of the company to install the meter at no cost to the customer. In 2000, as a means of accelerating meter numbers and helping to manage water demand, we implemented a policy of metering properties on the change of ownership.

We do not impose metering on customers who are currently living in households charged on rateable value. To do so we would need to seek specific powers from the Government and it is unlikely that we would be granted these powers as we have sufficient supplies to meet our customers’ demand.

2.4.2 Revising our current metering policies

As mentioned earlier, around 62% of our household customers now pay for water based on the amount they use. Feedback we are receiving from our customers is that paying for the volume of water used is the fairest means of charging and that we should do what we can to extend this to everyone.

Our current method of installing meters means that we react to needs for single installations across our entire 1041km² area of supply. We could do this more efficiently if we installed meters in the remaining 38% of properties in a methodical and planned manner.

Approximately 50% of the unmetered properties already have underground chambers installed where we can easily fit a meter. Properties that have not had chambers installed have stopcock chambers, which are in need of replacement. This can be done when the meter is installed.

2.4.3 Strategy for metering

Between 2015 and 2025, we will systematically meter the remaining unmetered properties. Although meters would be installed, customers would not be charged as metered unless they chose to be or if they moved house. This would be a continuation of our current metering policy but carried out more efficiently.

Metering all properties will enhance our means of controlling leakage and managing demand. It will also serve to make our current metering activity more efficient thereby reducing costs in the long term.

In order to ensure that our customers are kept informed of what we are doing and how it will affect them, we will initiate a tailored communications campaign to accompany our metering activity. In addition to education and a general increase in awareness, we will also do the following:

- Inform customers that we plan to install a meter and provide them with the option to switch (those who change to metered charging and do not benefit after 12 months can revert to charging based on rateable value).
- Monitor customer accounts for 12 months after meter installation to determine which customers may benefit from switching to metered charging.
- Contact those customers who did not switch at the first instance but who are likely to benefit from switching and encourage them to change to metered charging.
- Offer free water-efficiency devices and water-efficiency advice to all customers who have been metered.

2.4.4 Leakage reduction

Increasing the number of metered properties as outlined above will contribute significantly to the reduction of leakage across our area of supply. In addition we aim to increase our

leakage management activities and become more proactive in managing the water supply network through enhanced network monitoring.

These activities over and above our current leakage management will result in a reduction in leakage by 5% from current levels by the year 2020.

3 Conclusion

Our ability to provide a continuous wholesome supply of water over the next 25 years is secure. We are located in an area of low water stress and due to the nature of our sources we are at low risk from the impacts of climate change. This is provided we continue with our current policies for managing demand for water.

We believe, as a responsible company, that we should endeavour to improve our performance wherever possible. For this reason, with the support of our customers, we have proposed to change the way in which we approach metering and increase our leakage management activities. Both of which have been evaluated as part of the 2014 Company Business Plan. Although we have a surplus of water improving the sustainable management of our water resources will ensure that there is enough for both customers and ecological processes well into the future. This in turn will reduce the possibility of having to implement expensive supply side water resources schemes in the future.