

Third annual review of water company water resources plans

December 2002





www.environment-agency.gov.uk

The Environment Agency is the leading public body protecting and improving the environment in England and Wales.

It's our job to make sure that air, land and water are looked after by everyone in today's society, so that tomorrow's generations inherit a cleaner, healthier world.

Our work includes tackling flooding and pollution incidents, reducing industry's impacts on the environment, cleaning up rivers, coastal waters and contaminated land, and improving wildlife habitats.

Published by:

Environment Agency Rio House Waterside Drive, Aztec West Almondsbury, Bristol BS32 4UD Tel: 01454 624400 Fax: 01454 624409

ISBN: 1-84432-020-0

© Environment Agency November 2002

All rights reserved. This document may be reproduced with prior permission of the Environment Agency.

This report is printed on Cyclus Print, a 100% recycled stock, which is 100% post consumer waste and is totally chlorine free Water used is treated and in most cases returned to source in better condition than removed.

Contents

		Page
		rage
Summary		2
1.	Introduction	
	1.1 Background	3
	1.2 April 2001 to March 2002 - a year in water resources	3
	1.3 Structure of the report	4
2.	Analysis of resource zone information	
	2.1 Definition of resource zones	5
	2.2 Household water meter penetration	7
	2.3 Per capita consumption	7
	2.4 Household occupancy rates	10
	2.5 Leakage	15
	2.6 Summary	15
2	Supply demand balance issues	
3.	Supply-demand balance issues	17
	3.1 Resource availability	17
	3.2 Preparing for the 2004 periodic review	18
4.	Recommendations	19
5.	References	20

Summary

This is the Environment Agency's report on the third annual review of water companies' water resources plans. It covers the period from April 2001 to March 2002.

In March 1999, all the water companies of England and Wales submitted water resources plans to the Environment Agency. The plans set out how these companies planned to manage public water supplies to 2025. Ministers asked the Environment Agency to keep these plans under annual review. For this third annual review we asked water companies to submit data by 13 September 2002.

All companies provided clear and helpful information broadly in line with Agency guidance. We are pleased to report that all companies are actively reviewing their supply-demand balance and that most are making good progress on their water resources plans.

In the course of our analysis, we identified some significant issues that need further attention:

- Thames Water's failure to control leakage means that there is a potential deficit in the water supply for London. It means that customers in London are at greater risk of water shortages in times of drought than customers in the rest of England and Wales. The company needs to take urgent action to address the unacceptably high levels of leakage and to execute its water resources development programme without compromising the environment. With the Office of Water Services (Ofwat), we have asked the company to produce a new water resources plan by January 2003. We will scrutinise this carefully and report to Ministers. We also expect the company to explain the large increase in per capita consumption (pcc) in the South Oxfordshire zone.
- Anglian Water and Three Valleys Water failed to meet leakage targets this year. We will ask the companies to report regularly on progress made against their plans to reduce leakage to the target levels. However, we are pleased to see that the majority of companies have met their targets.
- In more than 20 of the 122 resource zones, leakage rose by more than 10 per cent in 2001-2002. We will seek assurance from the relevant companies that action will be taken to reverse this trend.

- Three Valleys Water has reported extremely high per capita consumption (pcc) values for one of its resource zones. The company says that these probably reflect the incorrect allocation of an inter-zonal transfer of water. If this is the case then it also raises questions about data from Three Valleys' other zones, and it could have implications for other parts of the company's water balance. We will expect to see a full explanation and revised pcc data from the company by the end of December 2002.
- Our report on Dwr Cymru Welsh Water's approach
 to calculating occupancy rates and per capita
 consumption shows that the company needs to
 improve its data collection methods to ensure that
 its data is robust. We will work with the company
 to help ensure that these improvements are put in
 place as soon as possible.
- There is a discrepancy in the order of 30 MI/d in the overall water balance reconciliation for Essex and Suffolk Water, primarily within the Essex zone.
 We expect the company to explain this discrepancy and to produce revised data before the end of December 2002.
- We are concerned about the rates of progress on meter penetration of water companies that have resource zones where the margin between supply and demand is small.

We will keep Ministers informed about progress on these matters.

The issues raised in this report demonstrate once again the value of the annual review of water company plans. Ofwat has indicated that it finds the annual reviews valuable for monitoring companies' performance in delivering funded outputs. The Department for Environment, Food and Rural Affairs (Defra) and the Welsh Assembly Government (the Assembly Government) have told us that they expect us to continue with these reviews. We will work with Defra, the Assembly Government, Ofwat and Water UK to ensure that draft water company water resources plans due in the summer of 2003 also provide appropriate information for the 2002-2003 annual review of water company water resources plans.

1. Introduction

This is the Environment Agency's annual review of water companies' water resources plans for the year from April 2001 to March 2002. Its objective is to review progress both against the companies' 1999 water resources plans and since the last two sets of annual review submissions.

1.1 Background

In England and Wales, public water supply is managed by private water companies. The Environment Agency is the statutory body with a duty for strategic water resources planning. Our role is to protect the long-term future of the water environment while encouraging sustainable development. In guidance in January 1999, central Government set out the legal framework within which water companies operate:

"Each water company has a key duty to develop and maintain an efficient and economical system of water supply. The Environment Agency has the duty to secure the proper use of water resources in England and Wales, within a general framework of policy and directions determined by the Secretaries of State. The Director General of Water Services has the duty to ensure that companies can finance the proper conduct of their functions. The Secretaries of State, the Director General and the Environment Agency each have general environmental duties to take into account when considering proposals relating to the functions of water companies." (DETR and the Welsh Office, 1999).

In March 1999, all the water companies of England and Wales submitted water resources plans to the Environment Agency. These plans provided for the first time a clear picture of how the water companies planned to manage public water supply to 2025. We assessed the plans and reported our findings in June 1999. Ministers asked the Agency to keep these plans under annual review. We reported on the first annual review in March 2001, while the second annual review was published in December 2001 (Environment Agency, 2001a, 2001c). We asked water companies to submit their third annual review by 13 September 2002. This covers the period from April 2001 to March 2002. The Agency issued

updated guidance to water companies to use in making their annual returns in July 2002.

1.2 April 2001 to March 2002 - a year in water resources

Much of the information that we collect from water companies relates to their operation during the year. Weather conditions have a significant influence on these operations. Like the previous year, the summer of 2001 was unremarkable, with only short periods of hot, dry weather. As a result, water supply systems were not stretched. Winter weather is also important. Periods of freezing weather followed by rapid thaw lead to an increased number of burst pipes, which can increase leakage. Temperatures in the winter of 2001-2002 were similar to those of the previous year, with few periods of freezing and thawing. However, the winter of 2001-2002 was wet, though not as wet as that of 2000-2001. The wet weather did not lead to the same sorts of problems as in the previous year when, for example, some treatment works became unusable because of floodwater. However, high water tables and excess surface water make leaks more difficult to detect and fix, and this may have had an influence on some companies' leakage activities. A few companies tell us that the wet weather itself may have caused extra leaks. This issue is covered further in Section 2.5.

Late in the winter of 2000-2001, foot and mouth disease struck the farming industry. At the time of the last annual review submission, many companies said that their operations had been severely affected by restrictions on movement in the countryside. Restrictions were lifted in some parts of England and Wales early in the summer of 2001. In most places restrictions had been lifted by early winter 2001, with limited areas still restricted into the spring and summer of 2002. Very few companies have cited the foot and mouth outbreak as a significant cause of problems in 2001-2002, although some investigations were certainly delayed by the imposed restrictions.

This was the second year for which prices were set by

the Director General of Water Services (Ofwat) in the 1999 periodic review of water company prices, known as AMP3 (Ofwat, 1999). Most companies have worked within their price limits to deliver their water resources investment programmes. Price limits for three companies (South West Water, Bournemouth and West Hampshire Water and Dee Valley Water) were increased by Ofwat to reflect changes in costs and revenue not allowed for in the 1999 price limits. In September 2002, Severn Trent Water and Yorkshire Water asked Ofwat to review their price limits; decisions are expected in December 2002.

In April 2002, the UK Climate Impacts Programme (UKCIP) published its 2002 climate change scenarios, which replace the 1998 ones (Hulme et al, 2002a, 2002b; UKCIP et al, 1998a, 1998b). They suggest that by the 2080s:

- annual average temperatures across the UK may rise by between 2°C and 3.5°C, with greater warming in the south and east;
- winters will become wetter and summers may become drier everywhere, but by the 2020s, changes will be within the range of natural variations we experience now;
- hot, dry summers will be much more frequent than they are now.

UK Water Industry Research (UKWIR) has commissioned work that looks at the impact of these new scenarios on river flows and groundwater levels. We expect the results of this work late in 2002.

The Agency's water resources strategy Water Resources for the Future provides a long-term framework for the management of water resources, including public water supply (Environment Agency, 2001b). It provides a basis for decision-making by water companies that ensures that decisions meet the wider objectives of society as a whole. Detailed plans for action by water companies and others should be drawn up so that they fit within this framework. In July 2002, the Environment Agency published the first review of its 2001 water resources strategy for England and Wales (Environment Agency, 2002). The first annual review examines in some detail the changes that have occurred and looks at how the Agency's activities, and those of others, are contributing to delivering the aims of the strategy.

In July 2002, the Government issued its consultation paper on extending opportunities for competition in the water industry in England and Wales (Defra, 2002). In brief, it proposes that competition should be extended to large non-household users of water, with competition either to produce and supply water through undertakers' supply networks, or to buy water from an undertaker and sell it to an existing water user. The consultation period ended on 1 October 2002. The resulting competition proposals are expected to form part of a future Water Bill.

During 2002-2003, work will start on the 2004

periodic review (AMP4). Ofwat and the Agency have agreed to collate a single submission on the supplydemand balance. This will allow the two regulators to work closely together to ensure that water companies are planning to maintain adequate security of supply in a way that is both economical and environmentally sustainable. Draft business plans will be submitted by water companies in August 2003, with final plans in April 2004. These will lead to a price determination by Ofwat in November 2004 for the five years from April 2005 to March 2010. Over the coming months water companies will be developing long-term water resources plans to show how they will maintain security of supply for customers. The Agency and Ofwat will review these plans and advise Ministers on the issues that they raise. The process will build on the successful approach to AMP3 that has led to a continued security of supply and the sustainable development of water resources to the benefit of society and the environment.

1.3 Structure of the report

This is the Agency's third annual review of water company water resources plans. It follows closely the structure of the two previous annual reviews. In Section 2, we look at some of the resource zone information that has been provided in the plans. We examine this to identify important characteristics of the data and to look at progress on some important aspects of water resources management. In Section 3, we look at areas of concern to companies, and identify issues that we intend to pursue over the next year. Finally, in Section 4, we draw our conclusions and look at the prospects for the next annual review.

2. Analysis of resource zone information

The companies adhered to the guidance issued by the Agency and provided us with useful information, supported by helpful reports. We are pleased to report this continuing high level of co-operation to Ministers. It allows us to understand the actions companies are taking and the issues they face.

Each water company has divided its supply area into one or more resource zones. A resource zone is defined as the largest possible zone in which all resources, including external transfers, can be shared and hence the zone in which all customers experience the same risk of supply failure from a resource shortfall. Every resource zone has its own characteristics, determined not only by the types of resource available but also by the customer base. Resource zones vary in size depending on the way in which the supply network functions and, to some extent, on the way in which the company has defined its zones. The smallest zone is operated by Dwr Cymru Welsh Water and has a population of under 2000, while the largest zone covers much of the north-west of England with a population of more than 6.5 million. England and Wales are divided up into a total of 122 resource zones. For their annual review submissions, we ask companies to provide information on each resource zone (figure 1). In this section, we examine some of this information.

Last year we received no submission from Cholderton and District Water Company. We are pleased to report that this very small water company has produced a partial submission this year, though it is far from complete. We are reassured that there are no significant issues at present, but the company will need to demonstrate that it understands its customers' needs for the 2004 periodic review.

2.1 Definition of resource zones

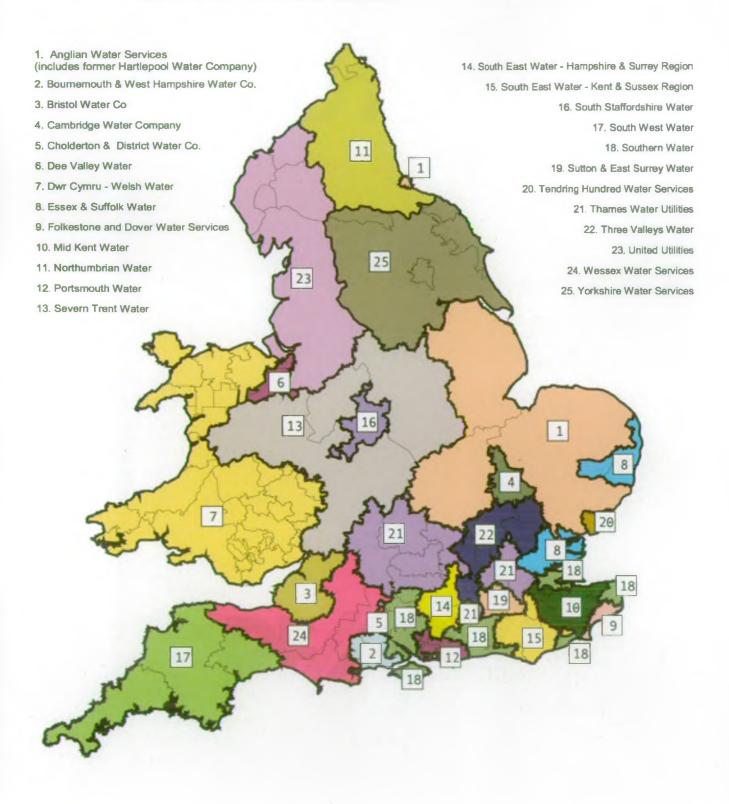
Previous annual reviews have confirmed our view that water supply planning is best carried out at a resource zone level. An understanding of resource zone characteristics and operations allows solutions to reflect the real geographical and social differences that exist. Such differences may be hidden by a company-wide approach.

Last year we expressed concern that some companies' resource zones did not seem to match the definition of equal risk. In particular, we commented that in some large zones we did not believe resources could be shared effectively. Also, some of the smaller zones are too small for effective statistical analysis of customer water use. This makes the margin for error much greater in these zones, which means that it is hard to be sure that the right amount of water is available for water customers. Small zones often depend on few sources of water, which makes them more vulnerable to equipment failure, pollution and drought. We expect companies to review their resource zones for the 2004 periodic review and we will ensure that our guidelines clarify the supporting information necessary to demonstrate that the company is planning at the right spatial

Last year we were disappointed that Portsmouth Water presented only company-wide information. We are pleased to report that this year the company has presented zonal data. This allows us to be confident that the company is making adequate provision for security of supply.

Last year we noted that some companies appeared to have produced resource zone information by the disaggregation of company-wide information. The situation appears to have improved this year, though some companies still seem to have trouble reconciling resource zone information with the company-wide figures supplied annually to Ofwat. We are pleased to see that some companies have noted the difficulties they have encountered.

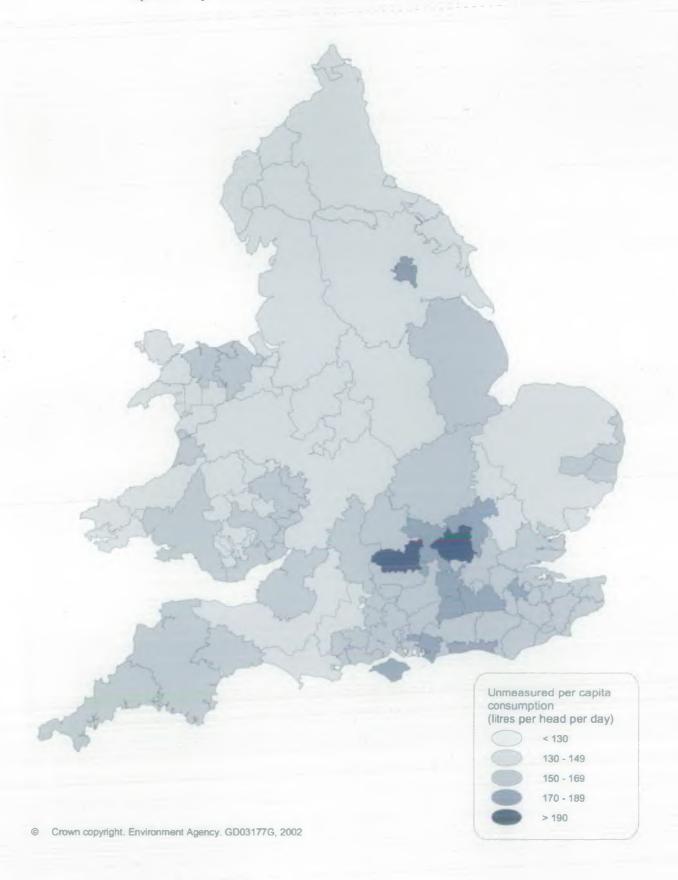
Figure 1: The water companies of England and Wales and their resource zones



Crown copyright. Environment Agency. GD03177G, 2002

water company boundaries resource zone boundaries

Figure 3: Unmeasured household per capita consumption (pcc) by resource zone 2001/2002



Measured pcc in 2001-2002 was between 95 l/h/d and 224 l/h/d (figure 4). The two lowest values are in two zones of Yorkshire Water. The company intends to carry out further work to investigate the robustness of the data for these zones. In 2000-2001, Yorkshire Water reported a company-wide pcc for each of its resource zones, but this year we are pleased to see that the company has revised its approach. It can now produce pcc and occupancy rates at a resource zone level. It has also improved the methods it uses for calculating population and resource zone property numbers and is actively reviewing its consumption monitors to better estimate resource zone occupancy rates. We expect the company will benefit from the improved information.

The highest measured pcc is in the zone of Three Valleys Water that also has an exceptional unmeasured pcc. We expect that the company's reassessment will reduce the measured pcc value. The next highest pcc is 199 l/h/d in the Horndean zone of Portsmouth Water. This reflects the very low meter penetration in this zone, with only 2.5 per cent of households having meters. The company's metering policy means that only high water users have meters.

Average measured pcc across England and Wales in 2001-2002 was 136 l/h/d. The pattern of measured pcc is similar to that of last year, with most of the high values in the south-east of England. To some extent this reflects the metering policy of many of the companies in this area. In many resource zones, the metered property proportion is still dominated by high water users, such as those with garden sprinklers. Some small zones of Dŵr Cymru Welsh Water also have high measured pcc, but this may reflect the company's very low measured occupancy rates.

This year South West Water has submitted company-wide measured and unmeasured pcc values for each of its three resource zones. The company tells us that it would be prohibitively expensive to increase the size of its consumption monitor to provide statistically valid zonal pcc values. We will explore this further with the company, as accurate zonal information is important for effective water resources planning. We will also be looking at how other companies provide this information.

2.4 Household occupancy rates

Household occupancy rate is important in water resources planning because it is used to calculate pcc. For example, measured pcc is calculated by dividing the volume of water delivered by the number of people living in measured properties. Companies have to estimate occupancy rate because they cannot collect this data for their entire company area.

In previous years we have identified various problems with companies' assessments of household occupancy rates. For example, some companies have made broad assumptions about company-wide measured occupancy rate that do not reflect the differences in meter penetration in different zones. Some zones have high numbers of meter optants, who would generally be expected to choose meters because they will save water, often because they live in low occupancy households. In other zones, many of the metered properties are new. We would expect the average occupancy rate for new properties to be closer to the overall occupancy rate for the resource zone.

Patterns of occupancy rate are similar to those of previous years, with most change in the zones where meter penetration has increased significantly (figures 6 and 7). Optional metering tends to attract households with fewer occupants, leading to an increase in the average unmeasured occupancy rate of the zone.

Last year we commented on the low measured occupancy rates in Dŵr Cymru Welsh Water's area. We commissioned an independent study by Paul Herrington of the company's approach to calculating occupancy rate and per capita consumption. Herrington's report confirms a number of problems in the company's approach, including:

- the use of out-of-date information and an arbitrary incremental element in estimating nonhousehold population;
- a problem with distinguishing between households and farms in certain rural areas;
- restrictive assumptions in estimating measured household occupancy rates;
- the lack of direct zonal surveys of occupancy rate;
- the continuing lack of a domestic consumption monitor of individual measured and unmeasured households;
- the calculation of unmeasured occupancy rate as a residual with no independent verification.

The conclusions of the report were too late for Dŵr Cymru Welsh Water to take action for 2001-2002, but we expect the company to make substantial improvements over the next year.

Figure 4: Measured household per capita consumption (pcc) by resource zone 2001/2002

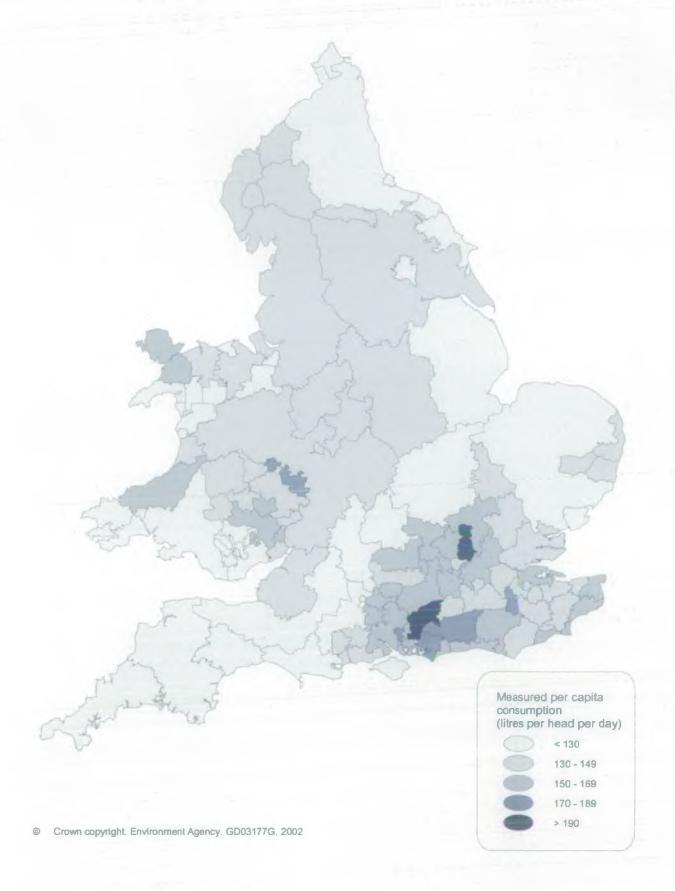
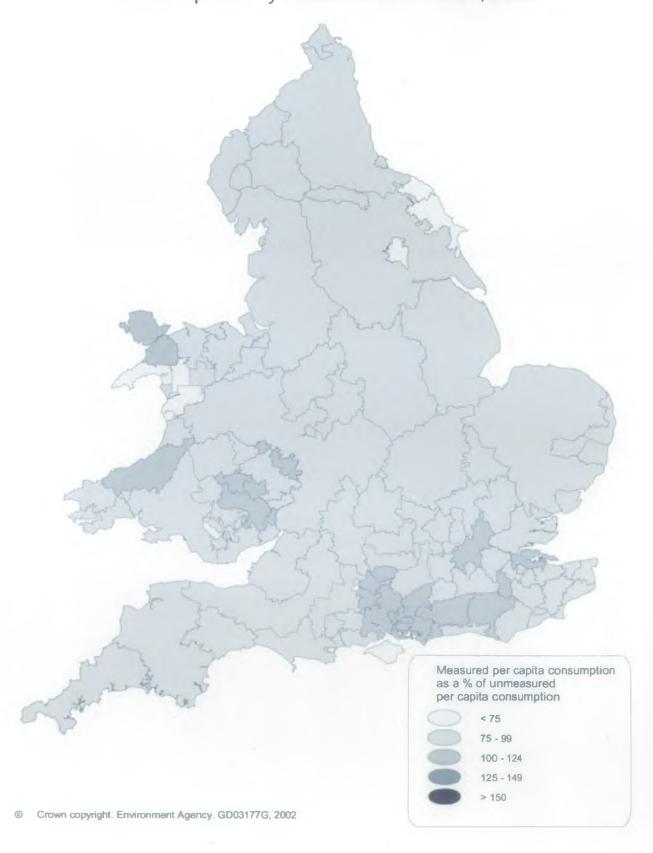


Figure 5: Measured household per capita consumption (pcc) as a percentage of unmeasured per capita consumption by resource zone 2001/2002



2.5 Leakage

Leakage has risen by around 5 per cent this year - the first time it has increased since the Water Summit in 1997. In 2001-2002, two companies failed to achieve their leakage targets; Anglian Water and Three Valleys Water both reported significant increases in leakage. Thames Water was not set a target on the same basis as the rest of the industry.

Anglian Water and Three Valleys Water have both suggested that, during the winter, wet ground conditions led to increased heave activity in clay soils, disturbing water mains and causing increased leakage. Both companies also say that the wet ground conditions made leaks more difficult to detect and fix. Anglian Water has told us that the 2002-2003 leakage target will be extremely challenging for the company, although it does have plans in place to achieve the target.

Thames Water's leakage continues to cause serious concern, both to Ofwat and the Environment Agency. Despite increased leakage-control activity, the company's reported leakage rose by 173 Ml/d. In part, this was due to improved methods of calculation, but leakage itself continues to rise. The rise is not only in London, but also in some of the resource zones in the Upper Thames Valley. It is hard to see why leakage control in South Oxfordshire and Swindon should be more difficult than in similar zones of other companies.

We will be working with Ofwat to ensure that Thames Water takes appropriate steps to address the very serious problems caused by its high levels of leakage. The scale of the problem is such that there is little alternative but for Thames Water to accelerate some of the resource development that we expected the company to need over the next ten years. The company has made progress on some resource development and is considering substantial investment in alternative schemes. With Ofwat, we have asked the company to produce a new water resources plan by January 2003. We expect Thames Water to consider all of the supply-side and demandside options it can take to resolve the deficit in its London zones. We will work to ensure that the company's response takes into account all of the impact of its possible actions. Although we accept that some resource development is necessary to resolve London's deficit, we believe that Thames Water will have to reduce leakage substantially if it is to develop an acceptable long-term supply-demand balance. We will keep Ministers informed of progress on these issues.

Other water companies met their leakage targets this year. However, there are about 20 resource zones where leakage rose by more than 10 per cent compared with last year. We will explore these issues with the companies concerned to ensure that they

are paying adequate attention to leakage control at a zonal level.

This year we asked companies to provide additional tabulated information on leakage. These were components of leakage that were previously covered in the water company submission commentaries. We are pleased to report that all companies co-operated in providing this information, though some did not have all the additional information to hand. We expect these companies to collate the additional information for next year's report.

2.6 Summary

Our analysis of resource zone information shows that most companies continue to make good progress on their water resources plans. However, we have identified some areas that require further investigation, and we will keep certain matters under active review with companies. We will continue to consider the implications of these for future reviews of water company plan updates and amend our data requirements accordingly.

Figure 8: Total leakage (litres per property per day) by resource zone 2001/2002



3. Supply-demand balance issues

This is the third annual review of plans covering 25 years. In our analysis, we have come across some issues that will require further consideration over the coming years. They will be particularly important as we approach the 2004 periodic review.

3.1 Resource availability

Most water companies continue to operate a satisfactory supply-demand balance for all their resource zones now and for the next five to ten years. Last year we expressed concern that some companies had inadequate supply-demand balance in some zones. This section of the report looks at these issues.

Thames Water continues to provide serious cause for concern. The levels of leakage highlight the fragile nature of the supply-demand balance for the Thames supply area. In particular, there is a deficit in London that needs to be addressed. The characteristics of the system mean that it is sensitive only to long, dry sequences including two dry winters. This means that there is almost certainly sufficient water for 2003. However, if the winters of 2002-2003 and 2003-2004 prove to be dry. Thames Water may find it difficult to ensure that its customers are at no greater risk of shortage than customers in the rest of England and Wales. Thames Water is working with the Agency and Ofwat to find solutions to decrease its deficit; however, these latest figures emphasise the urgency with which the situation must be resolved.

Last year we noted that Essex and Suffolk Water would have inadequate headroom in its Essex zone until 2008. Progress has been made on measures to resolve the deficit, which will be substantially reduced when various schemes are commissioned early in 2003. The company has investigated additional options, some of which may be implemented. However, the problem will not be completely resolved until at least 2008, when proposed permanent changes to the operation of the Ely Ouse – Essex Scheme are due to be implemented. Significant work and full appraisal of environmental impacts is still needed for the company to secure these changes. We are concerned by a discrepancy in the order of 30 MI/d in the overall water balance of Essex and Suffolk

Water, primarily within the Essex resource zone. The company is investigating this discrepancy and we expect it to produce explanatory data and a plan for future resolution before the end of 2002.

Dwr Cymru Welsh Water continues to make slow progress on resolving resource balances in zones that were predicted to have a deficit by 2010. The company is drawing up plans to increase water supply in Mid and South Ceredigion. These include the development of a pipeline from Claerwen Reservoir in the Elan Valley. We have yet to see full proposals, but we believe there will be issues associated both with the impact of the pipeline on the local environment and with the effect of the transfer on the water available to Severn Trent Water from the Elan Valley.

South East Water has given cause for concern since its original water resources plan in 1999. We are pleased that the company has changed its policy so that it intends to meet target headroom in dry years. This is a significant step towards ensuring adequate security of supply to customers. During 2001-2002, improved water treatment and removal of treatment capacity constraints have contributed to improved security of supply.

Folkestone and Dover Water continues to run with a small deficit against target headroom. The company is currently exploring opportunities to acquire unused industrial abstraction licences.

Two of Southern Water's resource zones also give cause for concern. Sussex North and Sussex Hastings could both have deficits in dry years. In both zones, the demand last year was higher than that predicted in the 1999 plan for a dry year. The company is working towards resolving these issues. For Sussex North, it is imperative that the bulk supply from Portsmouth Water progresses quickly and other infrastructure improvements are made. In Sussex Hastings zone, we expect a licence application early in 2003 for a scheme that will increase transfer capacity between Bewl Reservoir and Darwell Reservoir. This will both resolve the problems in Sussex Hastings and increase the availability of water for South East Water. We will inform Ministers if there are any delays in these programmes.

In the 1999 water company water resources plans a number of companies highlighted peak supply-demand balance issues. Although peak demands in 2001-2002 were not exceptional, many of these companies have presented peak information that is helpful in understanding the background to these potential problems. Some companies, however, did not provide detailed information for resource zones with peak problems. We will be following this up with the companies concerned during our discussions in preparation for the 2004 periodic review.

3.2 Preparing for the 2004 periodic review

During our analysis, we have identified a number of issues that companies should consider as they prepare for the 2004 periodic review. These include:

Outage

Outage is defined as the unplanned loss of deployable output, for example, as a result of equipment failure. Many companies continue to report planned outage rather than actual annual outage. We understand the difficulty of distinguishing between the planned and unplanned unavailability of equipment, but we note that some companies have made good progress in collecting information on actual outage, and we urge others to do the same.

Occupancy rates, property numbers and population

Some companies are still following poor practice in calculating occupancy rates and population. Companies should ensure that they are following good practice, for example, in carrying out surveys of occupancy rate that will provide a statistically robust assessment.

Resource zone size

Some companies have very small resource zones. These can be so small that it is difficult to apply statistical analysis to associated data. Other companies have very large resource zones, and we are concerned that some of these may not provide equal security of supply for their customers.

Micro-component data

Some companies have told us of progress in collecting micro-component demand data. All companies should consider this issue to ensure that they can produce robust demand forecasts for the 2004 periodic review.

Peak demand

As mentioned in 3.1, meeting peak demands is a potential problem for some companies. They will need to ensure that appropriate information is available for the forthcoming review of water company water resources plans.

4. Recommendations

In this report we have considered the third annual review of water company plans. We are pleased to note that companies co-operated with this review, providing us with the information we requested and helpful supporting reports. Most companies have adequate resources at present, but some need to take action to restore an adequate security of supply for customers.

During our analysis, we have identified a number of issues that require further detailed investigation. We will take up these issues with the water companies involved, keeping Ofwat fully informed. If these discussions raise significant problems, we will report these to Ministers.

Within this report we have identified several important issues that require further attention:

- Thames Water's failure to control leakage means that there is a potential deficit in the water supply for London. It means that customers in London are at greater risk of water shortages in times of drought than customers in the rest of England and Wales. The company needs to take urgent action to address the unacceptably high levels of leakage and to execute its water resources development programme without compromising the environment. With Ofwat, we have asked the company to produce a new water resources plan by January 2003. We will scrutinise this carefully and report to Ministers. We also expect the company to explain the large increase in per capita consumption in the South Oxfordshire
- Anglian Water and Three Valleys Water failed to meet leakage targets this year. We will ask the companies to report regularly on progress made against their plans to reduce leakage to the target levels. However, we are pleased to see that the majority of companies have met their targets.
- In more than 20 of the 122 resource zones leakage rose by more than 10 per cent in 2001-2002. We will seek assurance from the relevant companies that action will be taken to reverse this trend.
- Three Valleys Water has reported extremely high per capita consumption values for one of its resource zones. The company says that these probably reflect the incorrect allocation of an

inter-zonal transfer of water. If this is the case then it also raises questions about data from Three Valleys' other zones, and it could have implications for other parts of the company's water balance. We will expect to see a full explanation and revised pcc data from the company by the end of December 2002.

- Our report on Dwr Cymru Welsh Water's approach
 to calculating occupancy rates and per capita
 consumption shows that the company needs to
 improve its data collection methods to ensure that
 its data is robust. We will work with the company
 to help ensure that these improvements are put in
 place as soon as possible.
- There is a discrepancy of about 30 MI/d in the overall water balance reconciliation for Essex and Suffolk Water, primarily within the Essex zone. We expect the company to explain this discrepancy and to produce revised data before the end of December 2002.
- We are concerned about the rates of progress on meter penetration of water companies that have resource zones where the margin between supply and demand is small.

We will discuss all of these issues with Ofwat, Defra, the Assembly Government and the water industry (through Water UK).

The issues raised in this report have demonstrated once again the value of the annual review of water company water resources plans. Ofwat has indicated that it finds the annual reviews valuable for monitoring companies' performance in delivering funded outputs. Defra and the Assembly Government have told us that they expect us to continue with these reviews.

The next review is due in the summer of 2003. This will coincide with the production of the draft water resources plans for the 2004 periodic review. We propose to collect the annual review information as part of the water company water resources plan submissions, rather than as a separate exercise. We are working with Ofwat to define the content of the next round of water resources plans, and we are consulting with Defra, the Assembly Government and the water industry over our requirements.

References

Department for Environment, Food and Rural Affairs (2002) Extending Opportunities for Competition in the Water Industry in England and Wales - Consultation Paper. Department for Environment, Food and Rural Affairs: London. July.

DETR and Welsh Office (1999) Maintaining Public Water Supplies: Ministerial Guidance to the Director General of Water Services on Issues arising in the Preparation of Water Resource Plans by the Water Companies of England and Wales. Department of the Environment, Transport and the Regions and Welsh Office: London. January.

Environment Agency (2001a) First Annual Review of Water Company Water Resources Plans. Environment Agency: Bristol. March.

Environment Agency (2001b) Water Resources for the Future: A Strategy for England and Wales. Environment Agency: Bristol. March.

Environment Agency (2001c) Second Annual Review of Water Company Water Resources Plans. Environment Agency: Bristol. December.

Environment Agency (2002) Water Resources for the Future: Annual Review 2002. Environment Agency: Bristol. August.

Hulme, M., Jenkins, G.J., Lu, X., Turnpenny, J.R., Mitchell, T.D., Jones, R.G., Lowe, J., Murphy, J.M., Hassell, D., Boorman, P., McDonald, R. and Hill, S. (2002a) Climate Change Scenarios for the United Kingdom: The UKCIP02 Scientific Report. Tyndall Centre for Climate Change Research, School of Environmental Sciences, University of East Anglia: Norwich.

Hulme, M., Turnpenny, J., Jenkins, G. (2002b) Climate Change Scenarios for the United Kingdom: The UKCIP02 Briefing Report. Tyndall Centre for Climate Change Research, School of Environmental Sciences, University of East Anglia: Norwich.

Ofwat (1999) Final Determinations: Future Water and Sewerage Charges 2000-05. The Office of Water Services: Birmingham. December.

UK Climate Impacts Programme, The Met. Office and Climatic Research Unit (1998a)

Climate Change Scenarios for the United Kingdom - Scientific Report: UK Climate Impacts Programme

Technical Report No.1. Climatic Research Unit:

Norwich.

UK Climate Impacts Programme, The Met. Office and Climatic Research Unit (1998b)

Climate Change Scenarios for the United Kingdom Summary Report: UK Climate Impacts Programme
Technical Report No.1. Climatic Research Unit:
Norwich.

CONTACTS:

THE ENVIRONMENT AGENCY HEAD OFFICE

Rio House, Waterside Drive, Aztec West, Almondsbury, Bristol BS32 4UD. Tel: 01454 624 400 Fax: 01454 624 409

www.environment-agency.gov.uk www.environment-agency.wales.gov.uk

ENVIRONMENT AGENCY REGIONAL OFFICES

ANGLIAN
Kingfisher House
Goldhay Way
Orton Goldhay
Peterborough PE2 5ZR

Tel: 01733 371 811 Fax: 01733 231 840

MIDLANDS
Sapphire East
550 Streetsbrook Road
Solihull B91 1QT
Tel: 0121 711 2324
Fax: 0121 711 5824

NORTH EAST
Rivers House
21 Park Square South
Leeds LS1 2QG
Tel: 0113 244 0191
Fax: 0113 246 1889

NORTH WEST
PO Box 12
Richard Fairclough House
Knutsford Road
Warrington WA4 1HG
Tel: 01925 653 999
Fax: 01925 415 961

SOUTHERN
Guildbourne House

Chatsworth Road Worthing West Sussex BN11 1LD Tel: 01903 832 000

Tel: 01903 832 000 Fax: 01903 821 832

SOUTH WEST

Manley House Kestrel Way Exeter EX2 7LQ Tel: 01392 444 000 Fax: 01392 444 238

THAMES

Kings Meadow House Kings Meadow Road Reading RG1 8DQ Tel: 0118 953 5000 Fax: 0118 950 0388

WALES

Cambria House 29 Newport Road Cardiff CF24 0TP Tel: 029 2077 0088 Fax: 029 2079 8555



ENVIRONMENT AGENCY GENERAL ENQUIRY LINE

0845 9 333 111

ENVIRONMENT AGENCY F L O O D L I N E

0845 988 1188
ENVIRONMENT AGENCY
EMERGENCY HOTLINE

0800 80 70 60





We welcome feedback including comments about the content and

presentation of this report.

good practice and rewards our staff. If you are unhappy with our service, please let us know how we can improve it.

For further copies of this report or other reports published by the Environment Agency, contact general enquiries on 0845 9333111 or email us on enquiries@environment-agency.gov.uk

