

EA-WATER RESOURCES

FIRST ANNUAL REVIEW OF

Water Company Water Resources Plans

March 2001



ENVIRONMENT AGENCY

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Summary

This is the Environment Agency's report on the first annual review of water company water resources plans. It covers the period from April 1999 to March 2000. We are pleased to be able to report that all companies have provided us with the information that we required. We are also pleased to report that all companies have adequate plans for public water supply, although some need to make progress to ensure adequate security of supply.

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 of England and Wales planned to manage public water supply to 2025. We reported to Ministers on these in June 1999 in a report entitled *Planning public water supplies* (Environment Agency, 1999). Ministers asked the Agency to keep water companies' plans under annual review. In February 2000, after consultation with the Department of the Environment, Transport and the Regions (DETR), the National Assembly for Wales (NAW), Ofwat and the water industry, the Agency issued a template for the submission of annual review information. In response to water companies' requests, we agreed that submissions covering the year to April 2000 should be submitted by October 2000.

Each water company's supply area consists of 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. In their annual review submissions, companies have provided the Agency with information on each resource zone.

The analysis of resource zone information is an effective way both to identify issues that have already arisen and areas that will need to be tracked in the future. In our analysis, we have noted several important issues that require further attention:

- some companies have produced new estimates of future per capita consumption on the basis of 1999–2000 information. We need to look at the robustness of such estimates;
- methods of estimating household occupancy rates seem to play a significant part in the calculation of per capita consumption. We need to consider the relevant sources of information and the consistency of the assumptions adopted by companies;
- water companies have revised their estimates of future meter penetration. We need to consider the effects of these changes.

We will discuss all these issues with Ofwat, DETR, NAW and the water industry (through Water UK).

We have also noted matters that we will keep under active review with companies. We will consider the implications of these for future reviews of water company plans and amend our data requirements accordingly.

The issues raised in this report demonstrate the value of the annual review of water company plans. DETR and NAW have told us that they expect us to continue with these reviews. We will work with DETR, NAW, Ofwat and the water industry to define the information that should be provided for the 2000–01 review. We will consult before the end of April 2001 and write to water companies with our requirements during May 2001. It is likely that we will expect 2000–01 submissions to be produced by the end of September 2001.

1 Introduction

This is the Environment Agency's annual review of water companies' water resources plans for the year 1999–2000. Its objective is to review progress against companies' stated plans and to report on significant departures from the plans produced in March 1999.

1.1 Background

In England and Wales, public water supply is provided 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."

(Maintaining Public Water Supplies, Department of the Environment, Transport and the Regions and the Welsh Office, January 1999)

In March 1999 all the water companies of England and Wales submitted water resources plans to the Environment Agency. We reported to Ministers on these in June 1999 in a report entitled *Planning public water supplies* (Environment Agency, 1999). These

plans provided for the first time a clear picture of how the water companies of England and Wales planned to manage public water supply to 2025.

Only the plan submitted by South East Water was unacceptable to the Agency. This was principally because, in our view, the company had failed to plan for sufficient water supplies for the needs of its customers in the short term. We asked South East Water to submit a new plan in October 1999. This proved to be more acceptable, but we will continue to keep the company's actions under close scrutiny.

In their response to *Planning public water supplies*, Ministers asked the Agency to keep water companies' plans under annual review. In February 2000, after consultation with the Department of the Environment, Transport and the Regions (DETR), the National Assembly for Wales (NAW), Ofwat and the water industry, the Agency issued a template for the submission of annual review information. In response to water companies' requests, we agreed that submissions covering the year to April 2000 should be submitted by October 2000.

1.2 April 1999 to March 2000 – a year in water resources

Following their submission of water resources plans to the Environment Agency in March 1999, water companies gave Ofwat their supply-demand balance submissions in April 1999 as part of the requirements of the periodic review of water company price limits. After the Environment Agency and Ofwat had previously arranged that the reporting requirements for the water resources plans and the business plans were consistent, central Government asked Ofwat and ourselves to ensure that supply-demand balance submissions reflected the contents of companies' water resources plans. We worked with Ofwat to provide commentaries on the companies' water resources aspirations and to provide answers to particular queries that were raised.

In June 1999 the Water Industry Act 1999 was enacted. Among other provisions, this allows household customers to choose to have a water meter fitted free. Any household customer choosing to have a water meter fitted can revert to the previous charging basis within a year if they wish. The Act also banned the use of selective metering except on change of house occupier and for household customers with high discretionary use of water. The latter includes uses such as swimming pool filling and garden watering with automatic sprinkler systems. The Water Industry (Vulnerable Groups) Regulations 1999 spelled out the central Government's view for the need for social equity to be considered in charging for water. The Water Industry (Prescribed Conditions) Regulations, also made under the 1999 Act, make provision for water companies operating wholly or mainly in England to apply to the Secretary of State for part or all of their supply area to be designated as "water scarce". A successful application would allow a company to impose compulsory water metering with appropriate social safeguards. Much of this had been signalled in a consultation document issued in March 1998 (DETR and Welsh Office, 1998). In preparing their water resources plans, water companies had already taken these into account. In particular, they had already planned for the expected uptake of the free metering option.

In November 1999 the Director General of Water Services published his ruling on water company prices for the period from April 2000 to March 2004 (Ofwat, 1999). All companies were informed about any specific elements of their submissions that had not been funded. For all companies, Ofwat applied an initial estimate of the likely uptake of free household meters in the future, as a basis for funding in the price limits. For some companies this had little effect on the total number of meters assumed to be fitted. Other companies that had planned to promote free household meters felt that this would constrain their efforts. In the determinations, Ofwat clearly identified optional metering as a Notified Item, which means that

companies can ask Ofwat for an interim price determination if Ofwat's assumptions about meter uptake are shown to be incorrect and if this has a material effect on the company's costs and revenues.

The price determinations allowed for the funding of most elements of the Environment Agency's National Environment Programme (NEP). This programme, approved by central Government and the National Assembly, plans to improve the water environment by improving the quality of effluent discharges and reducing abstraction by water companies at environmentally sensitive sites. We are working with water companies on the implementation of this programme and will be publishing a report in Autumn 2001 detailing progress over the last 18 months.

Early in 2000 a consultation paper on competition in the water industry was published (DETR and NAW, 2000). This has raised interest in the topic, with many new ideas coming forward. Some water companies have proposed alternative structures for their operations. Kelda (owner of Yorkshire Water) were the first to go to Ofwat with a plan for mutualisation. This plan was rejected, but another route is being followed by Dŵr Cymru Welsh Water. Other groups have signalled their intention to compete for existing water company customers. The prospects for this were enhanced by the reduction of the threshold for inset appointments from 250 MI/year to 100 MI/year in August 2000. Under an inset appointment, a different supplier can provide water to a customer who previously took water from a water company. Such a threshold effectively still means that only large industrial customers are eligible. However, the potential for change is considerable and reinforces the importance of ensuring that water company plans are updated and reviewed regularly.

Much of the information that we collect from water companies relates to their operation during the year. Weather conditions have an important influence on these operations. In water resources terms, the summer

of 1999 was unremarkable, with only short periods of hot dry weather. This meant that there were no problems of water shortage: only Mid Kent Water had to ask customers to restrain their water use as the result of infrastructure failures at a time of peak demand. Winter weather is also important: periods of freezing weather followed by rapid thaws lead to increased levels of leakage. As the winter of 1999–2000 was relatively warm, this was not an important factor.

1.3 Structure of the report

This is the first annual review of water company plans, covering the first year of the implementation of plans that look 25 years into the future. In many areas, we would not have expected much to have changed. Indeed, the weather of 1999 to 2000 would not have tested water resources systems to any great extent. However, there are some areas where progress should be measurable.

In Section 2, we look at some of the resource zone information that has been provided in the plans. We examine this both to identify the important characteristics of the data, and to look at progress in 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 with companies 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

Each water company has divided its supply area into 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. Each resource zone has its own characteristics, defined not only by the types of resource available but also by the customer base. Resource zones vary in size depending on the way that the supply network functions. The smallest zone is in Wales and has only 2,070 inhabitants. The largest zone is in the north west of England with a population of 6.54 million. For the annual review submissions, we asked the companies to provide information on each resource zone (*Figure 1*). In this section we examine some of this information.

2.1 Household water meter penetration

The Water Industry Act 1999 clarified the position on metering, making free metering available to all households but stopping companies from imposing metering except in specific circumstances. Since April 1999, the penetration of household metering has increased over the whole of England and Wales (*Figure 2*). It is still very variable, with low levels in Wales, parts of the Midlands and the north west. Much of the south east of England has low levels of metering, which is surprising given the difficulty in finding new water for these areas. In contrast, metering levels in East Anglia, North Yorkshire, parts of the upper Thames catchment and parts of the south east are high. In one of Anglian Water's resource zones, almost half of households were metered by March 2000; we understand that metering has now reached about half of household customers across the company. This has been achieved by past policies of metering all new homes, metering on change of occupier, selective metering and until recently, by active promotion of the free metering option. On the Isle of Wight over 90 per cent of households are metered.

However, in their March 1999 water resources plans all water companies told us that they would achieve higher levels of meter penetration by 2000-01 (*Table 1*). Some companies have told us that they have scaled down their promotion of the free metering option (although we understand that all meet the statutory requirements for providing customers with the relevant information). They say that they have done this because Ofwat's price determination did not allow sufficient funds for their metering predictions. While metering is a Notified Item, companies seem reluctant to put themselves in the position of needing to seek an interim price determination. The Agency is concerned that metering levels are lower than the water resources plans predicted. All the plans assumed that metering would suppress demand for water. Without this suppression, we might find some companies seeking new water resources sooner than their plans suggest; we would be unlikely to find this acceptable. Few companies as yet have identified specific changes to their plans as a result of lower meter penetration, but we will keep this issue under review.

2.2 Per capita consumption

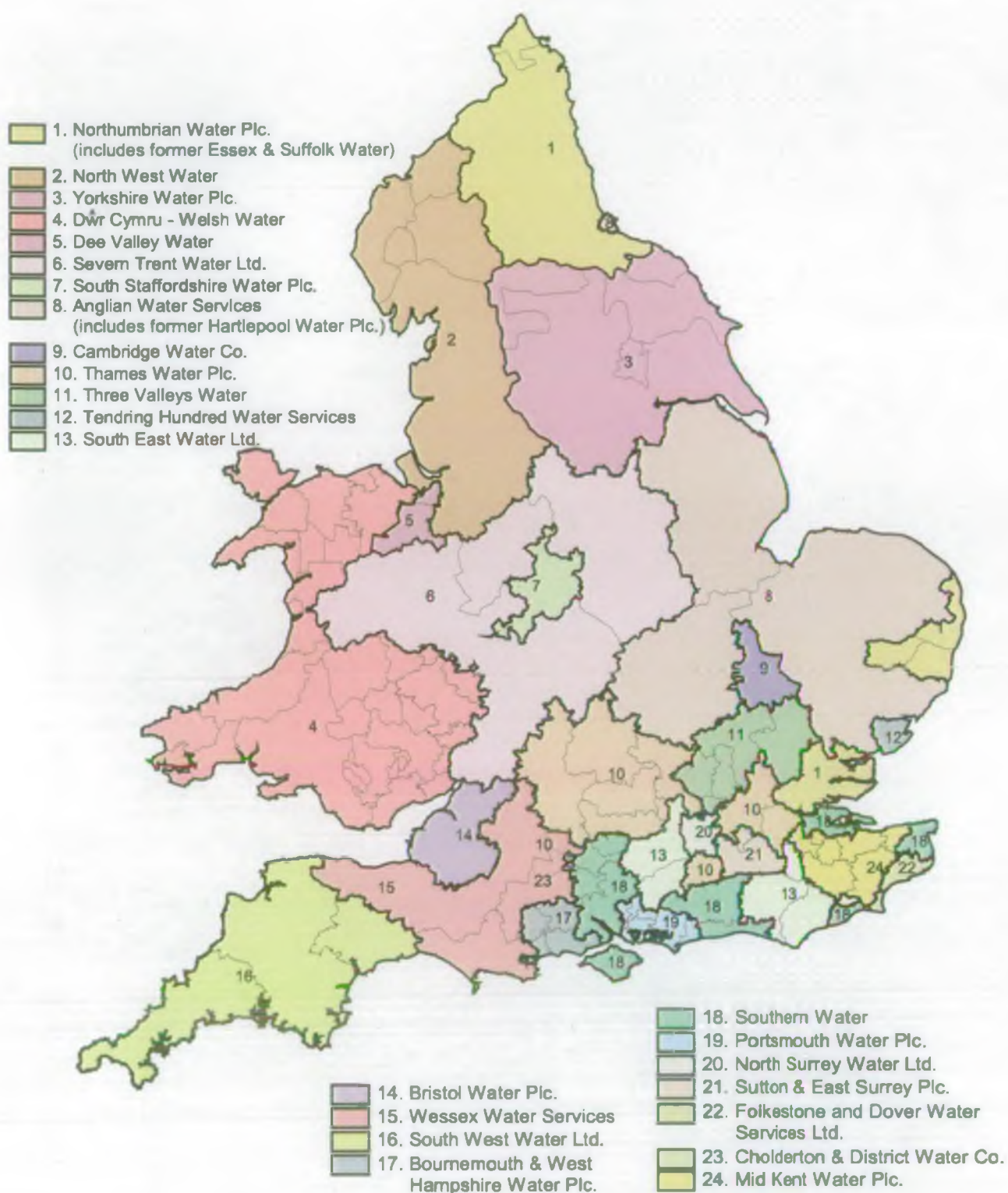
Per capita consumption (pcc) is the amount of water used by each individual at home. It is usual to distinguish between the pcc of households with meters and those without meters. There are two main reasons for making this division:

- people in measured households usually use less water than those in unmeasured households;
- For measured households, water use is known and so we can estimate per capita consumption simply by dividing the total of metered use by the number of people in metered households. In contrast, water use in unmeasured households is calculated from a water balance of the resource zone. As there are several elements of the water balance that are not measured, the calculated unmeasured pcc is based on assumptions that apportion water use between different parts of the water balance.

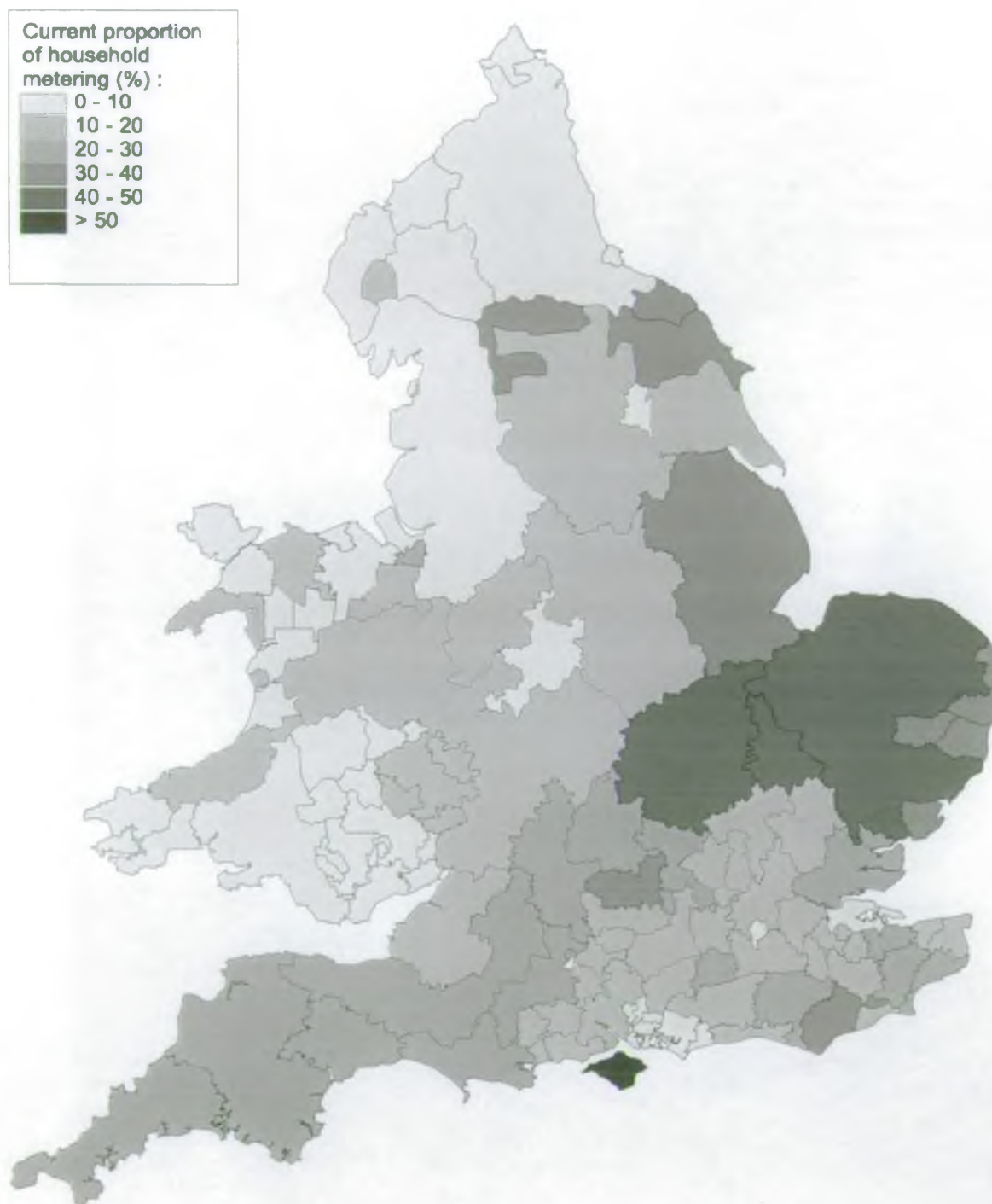
Table 1

<i>Meter penetration (% of households)</i>	<i>Final water company plan data for for 1997/98</i>	<i>Final water company plan projections for 2000/01</i>	<i>Water company annual review submission 1999/00</i>
Anglian Water Services	32.3	33.3	42.78
Hartlepool Water Company	0.6	2.9	2.09
Cambridge Water Company	22.2	48.9	41.90
Essex & Suffolk Water	19.2	13.7	23.27
Tendring Hundred Water Services	19.9	43.4	33.20
Severn Trent Water	12.7	20.0	17.38
South Staffordshire Water	7.0	10.1	9.28
Northumbrian Water Plc	2.6	6.6	4.61
Yorkshire Water Pic	12.1	22.5	17.58
York	0.9	incorporated in Yorkshire Water	incorporated in Yorkshire Water
North West Water	6.9	10.1	9.81
Bournemouth & West Hampshire Water Plc	11.2	20.5	18.06
Bristol Water Plc	9.9	19.5	14.04
South West Water Limited	14.0	28.9	22.81
Wessex Water Services	14.2	29.9	23.49
Folkestone and Dover Water Services	22.6	31.7	29.30
Mid Kent Water Plc	10.9	15.6	17.61
Portsmouth Water Plc	0.4	5.0	1.22
South East Water Kent & Sussex Region	19.6	29.8	25.36
South East Water Hampshire & Surrey Region	12.2	21.3	16.11
Southern Water	13.6	24.0	17.78
North Surrey Water Ltd	11.5	19.8	14.90
Sutton & East Surrey Plc	5.9	22.0	11.90
Thames Water Plc	7.9	19.2	16.36
Three Valleys Water	7.8	17.7	13.43
Dee Valley Water	13.4	24.7	19.63
Dŵr Cymru - Welsh Water	4.9	10.9	6.72

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



**Figure 2: Percentage of household metering
by resource zones 1999/2000**



In England and Wales, most houses are unmetered. Unmeasured pcc in 1999–2000 varied between 130 l/h/d and 190 l/h/d (Figure 3); as we commented in *Progress in Water Supply Planning* (Environment Agency, 1998), the variability in predicted unmeasured consumption is hard to understand.

In general, unmeasured pcc was highest in the south and east of the country, with particularly high levels in London and parts of the south east as well as parts of Hampshire and the Cotswolds. Higher levels in the south east are not unexpected; high pcc is usually associated with affluent areas where garden watering is common. It is perhaps surprising, however, that every resource zone of Bournemouth and West Hampshire Water has very high unmeasured pcc. We are working with Bournemouth and West Hampshire Water to understand this high unmeasured pcc. High pcc in Thames Water's supply zone in the Cotswolds is also worthy of note. We will investigate both of these cases with the company involved.

Measured per capita consumption is usually lower than unmeasured. This reflects the element of choice associated with metering; people who choose meters tend to do so because they will save money, often because they use lower amounts of water. Once meters are in place they tend to suppress water use further, because people become more aware of their water use.

Over most of England and Wales measured pcc in 1999–2000 was similar to or lower than unmeasured pcc (Figure 4). Exceptions include parts of London (Thames Water) and the coastal strip of west Sussex and east Hampshire (Southern Water and Portsmouth Water). These areas had the highest measured per capita consumption figures in 1999–2000, with an increase in measured pcc since 1997–98. In parts of Wales the measured pcc is surprisingly high, with measured water use higher than in parts of the south east of England. This is in marked contrast to some other zones in Wales, which have measured per capita consumption as low as 75 l/h/d. It should be noted that all of the zones with high measured pcc have

meter penetration of less than 20 per cent. The high measured pcc could be the result of an unusual customer base or because of the difficulties that exist in obtaining an accurate estimate of the number of people receiving a measured supply. We will seek to ensure that companies have a clear understanding of the factors affecting measured pcc in these areas.

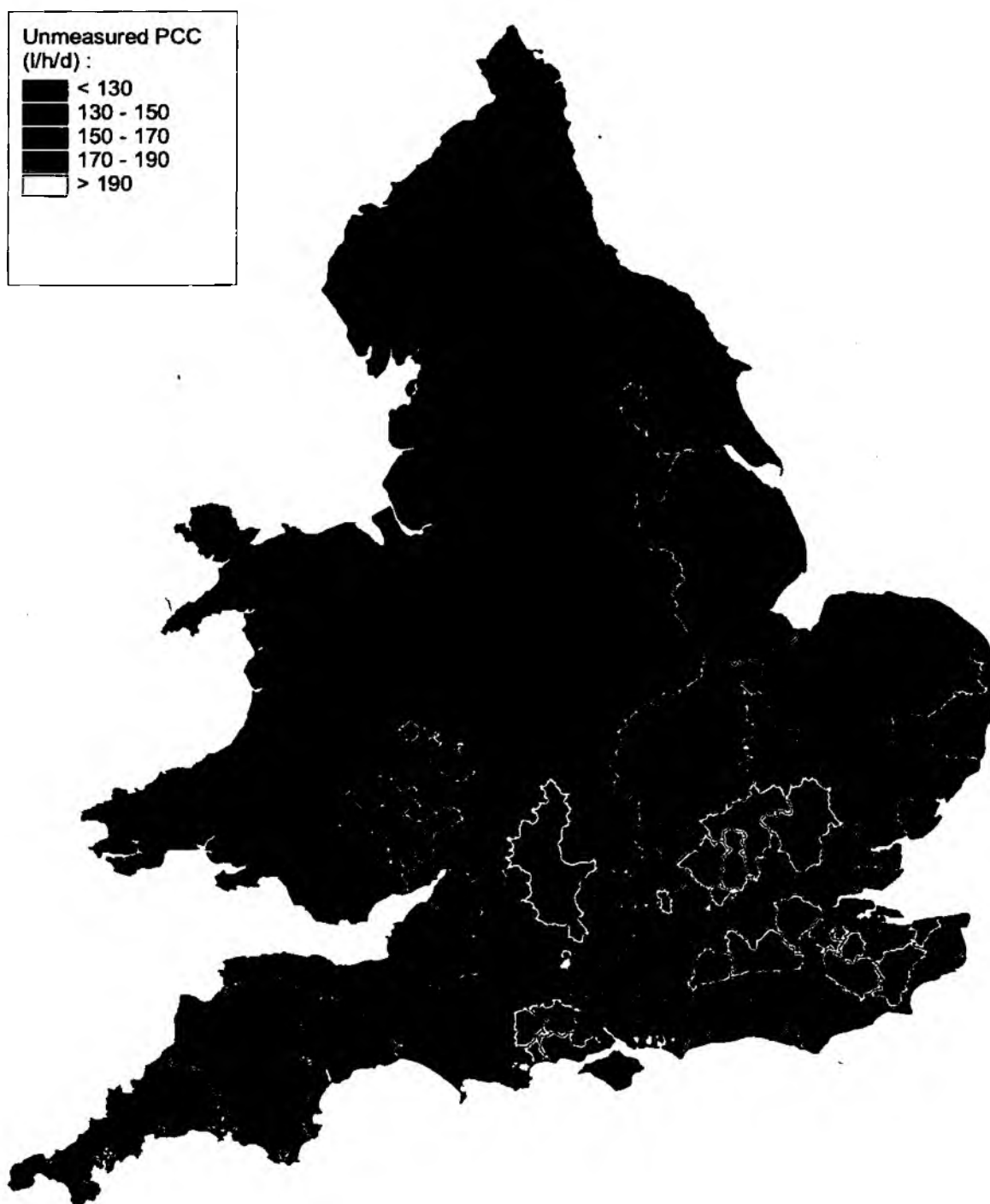
2.3 Household occupancy rate

Household occupancy rate is important in water resources planning because it is used to calculate per capita consumption. For example, measured pcc is calculated by dividing the volume of water delivered by the number of people living in the measured properties. Companies have to estimate occupancy rate, because they can not collect it for their entire supply area; however, some companies have had success with customer surveys and we urge others to do the same. Occupancy rates are usually lower in households with meters, because these households are most likely to save money by paying by volume.

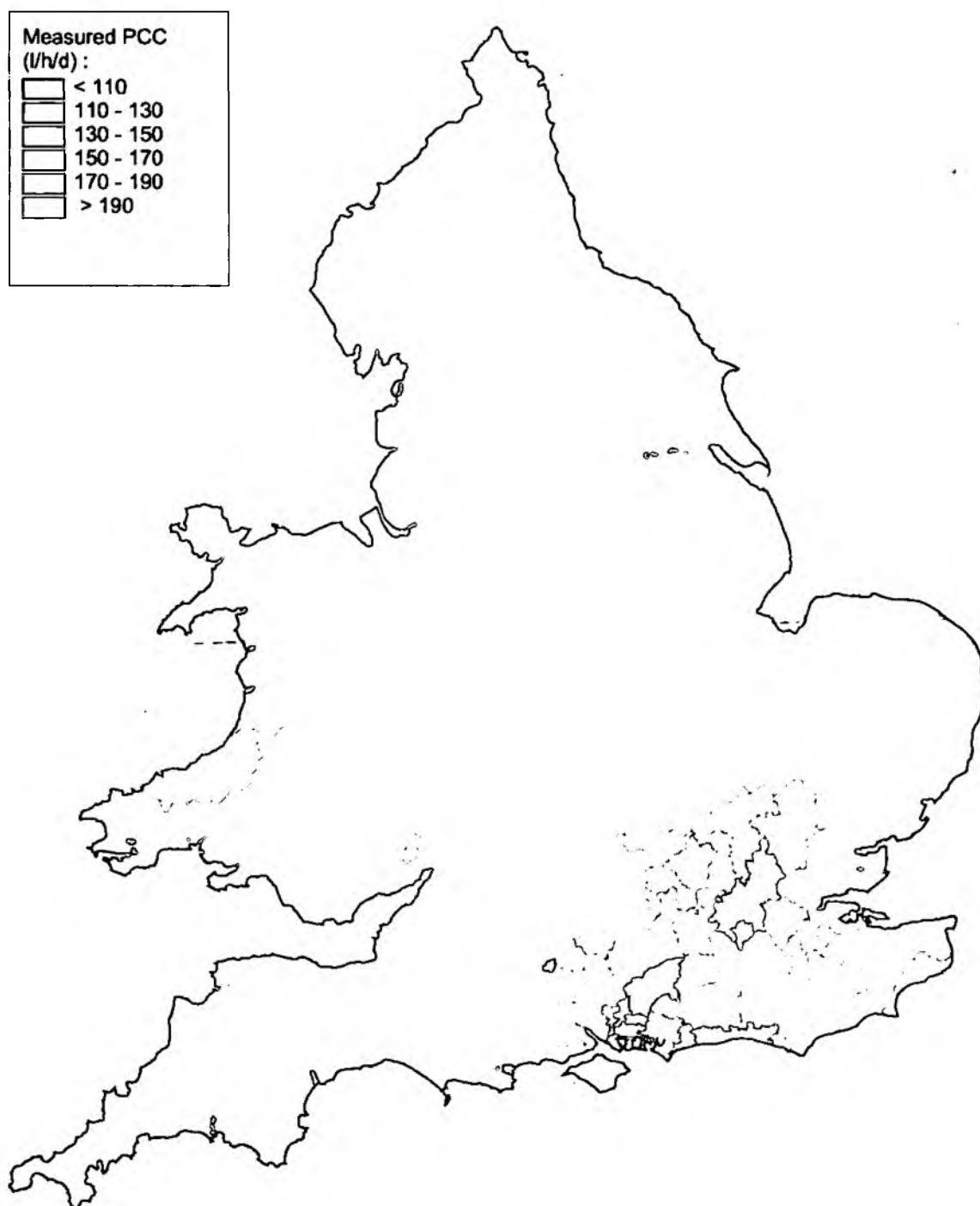
When we examine the data, we find some interesting patterns (Figures 5 and 6). Most companies have assumed a constant occupancy rate for measured households across all or most of their resource zones. For most resource zones in Dŵr Cymru Welsh Water's area, the measured occupancy rate is 1.28. This means roughly that out of every four measured houses, three have one occupant and one has two. This is a very low occupancy rate.

In contrast we find that most companies' occupancy rate for unmeasured properties varies greatly between resource zones. This suggests that these have been adjusted to ensure that population totals can be reconciled. This has implications for resource balances and particularly for the calculation of total leakage. We will discuss this with Ofwat.

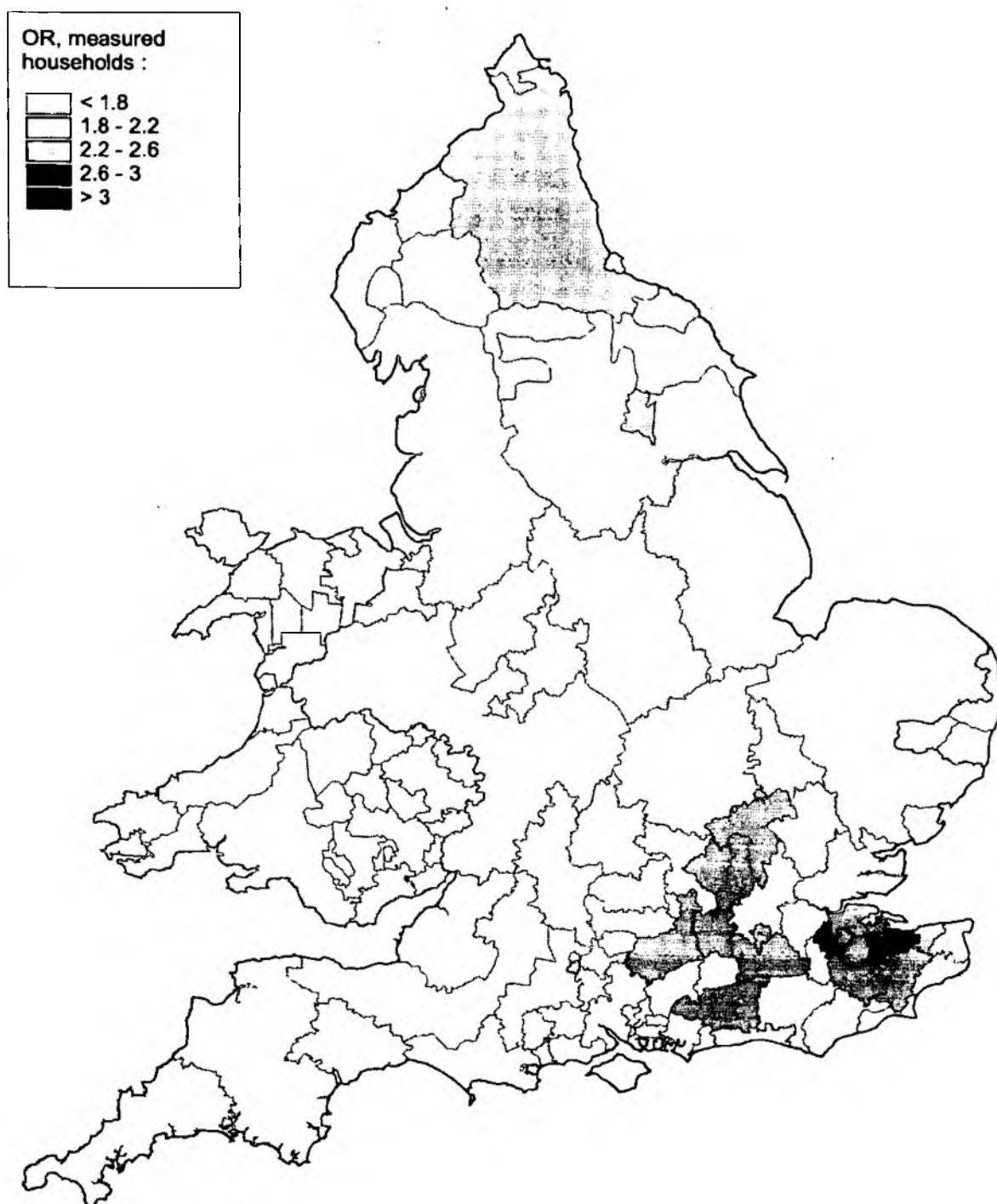
**Figure 3: Unmeasured household per-capita consumption (PCC)
by resource zone 1999/2000**



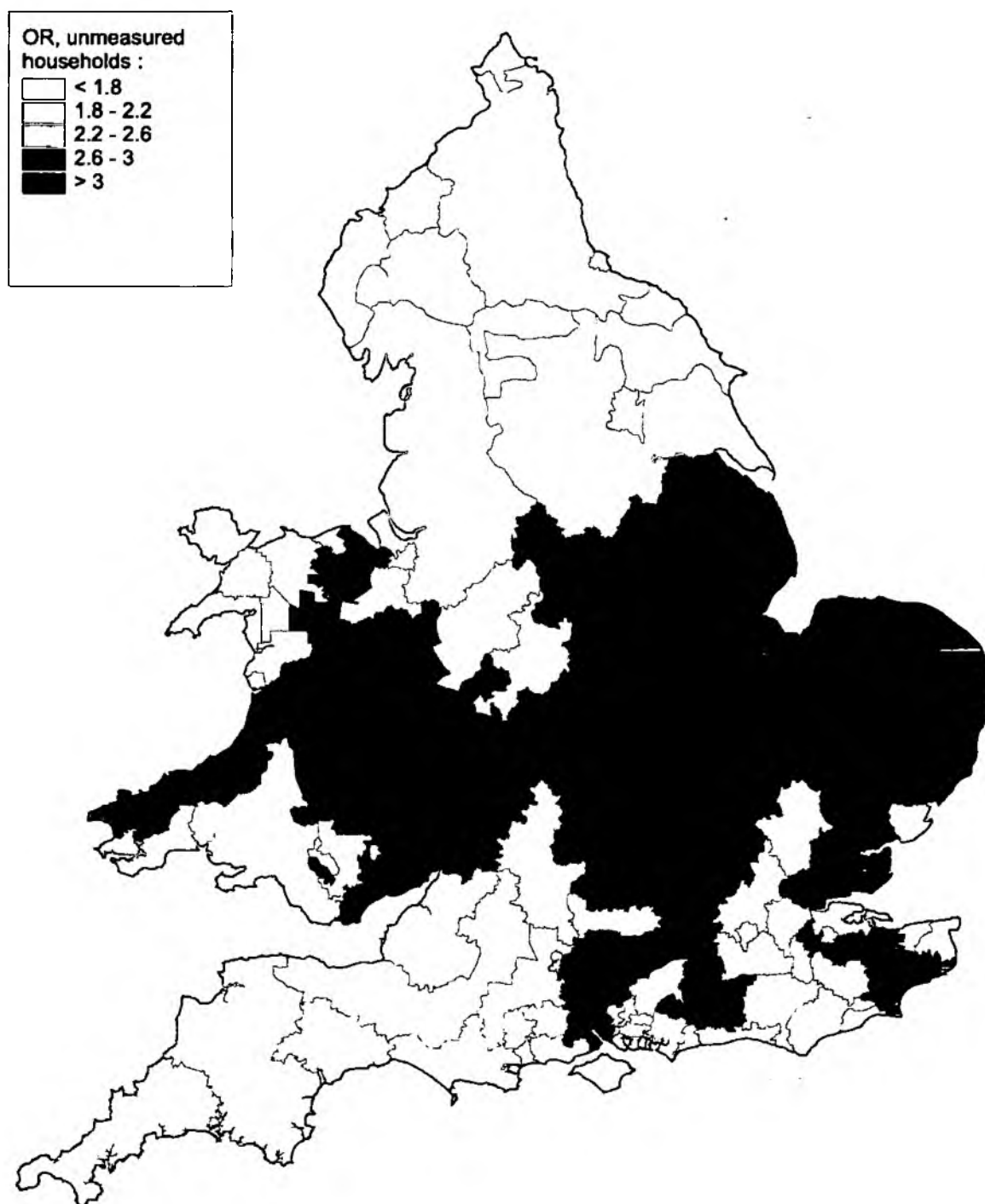
**Figure 4: Measured household per capita consumption (PCC)
by resource zone 1999/2000**



**Figure 5: Measured household occupancy rate (OR)
by resource zone 1999/2000**



**Figure 6: Unmeasured household occupancy rate (OR)
by resource zone 1999/2000**



2.4 Leakage

The Water Summit in 1997 led to the first mandatory leakage targets. As a result, reported leakage has fallen very significantly. Here we present two different measures of leakage. *Figure 7* shows leakage in litres per property per day (l/prop/d). This measure makes some allowance for the complexity of the mains system. We also show leakage as a proportion of distribution input, although this measure must be treated with care because it is dependent on the magnitude of other components of distribution input (*Figure 8*). In some respects this is a misleading measure, because it does not allow for the genuine differences in the ease of leakage control in different areas. For example, in hilly areas pressures have to be higher and leakage therefore tends to be greater.

Both maps present a positive picture. In 1999–2000 leakage across England and Wales was significantly lower than in 1997–98. However, for many companies leakage was higher than they predicted in their water resources plans for this year (*Table 2*). We will seek to understand why companies predicted that they would be able to achieve lower levels of leakage. We will make this information available to the ongoing leakage tripartite study being carried out on behalf of DETR, Ofwat and the Environment Agency. We will review the impact on the timing of companies' planned actions.

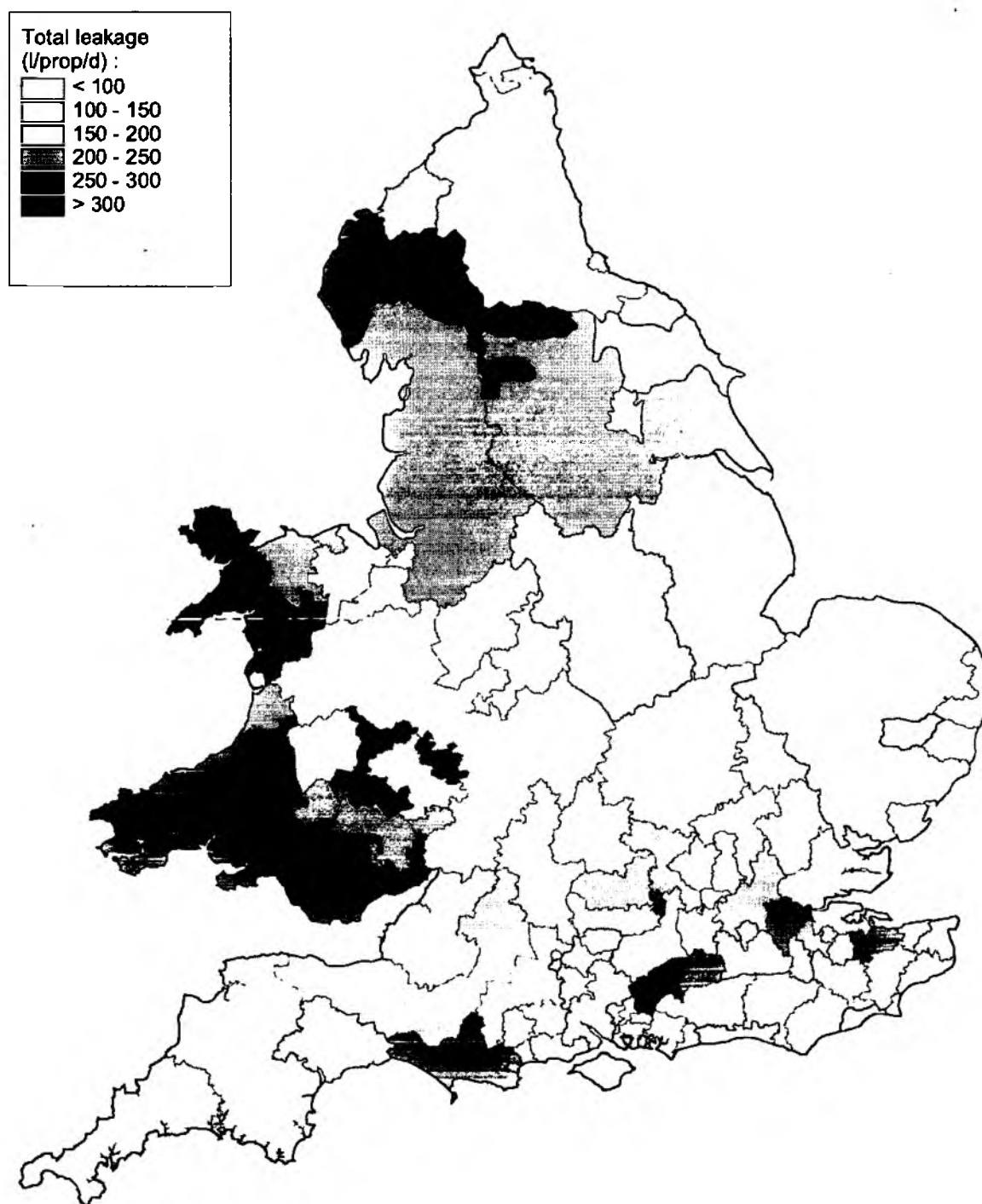
2.5 Industry and commerce

Across England and Wales, about a third of the water delivered by water companies goes to industry and commerce. It is used in industrial processes as well as for washing, cooking and cleaning. Industrial use is proportionately high for Bournemouth and West Hampshire Water and the area of Anglian Water that used to be Hartlepool Water (*Figure 9*). There is no significant change since the water resources plan submissions.

2.6 Summary

The analysis of resource zone information is an effective way to identify both issues that have already arisen and areas that will need to be tracked in the future. We have identified some questions that require further investigation, such as the assumptions of household occupancy rates. We have also noted matters that we will keep under active review with companies. We will consider the implications of these for future reviews of water company plan updates and amend our data requirements accordingly.

**Figure 7: Total leakage (l/prop/d)
by resource zone 1999/2000**



**Figure 8: Total leakage as a percentage of distribution input (DI)
by resource zone 1999/2000**

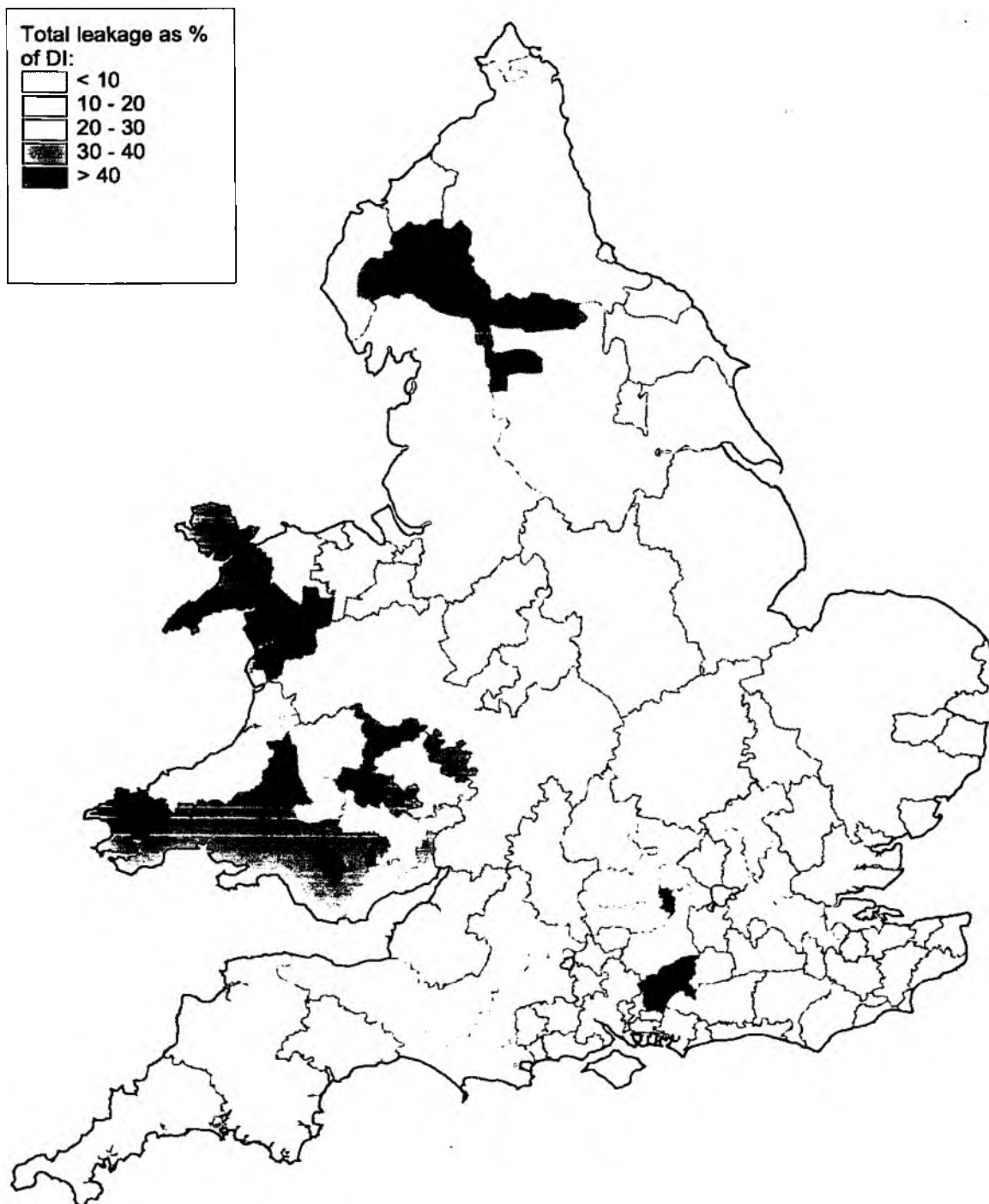


Figure 9: Total non-household water delivered as a percentage of distribution input (DI) by company 1999/2000

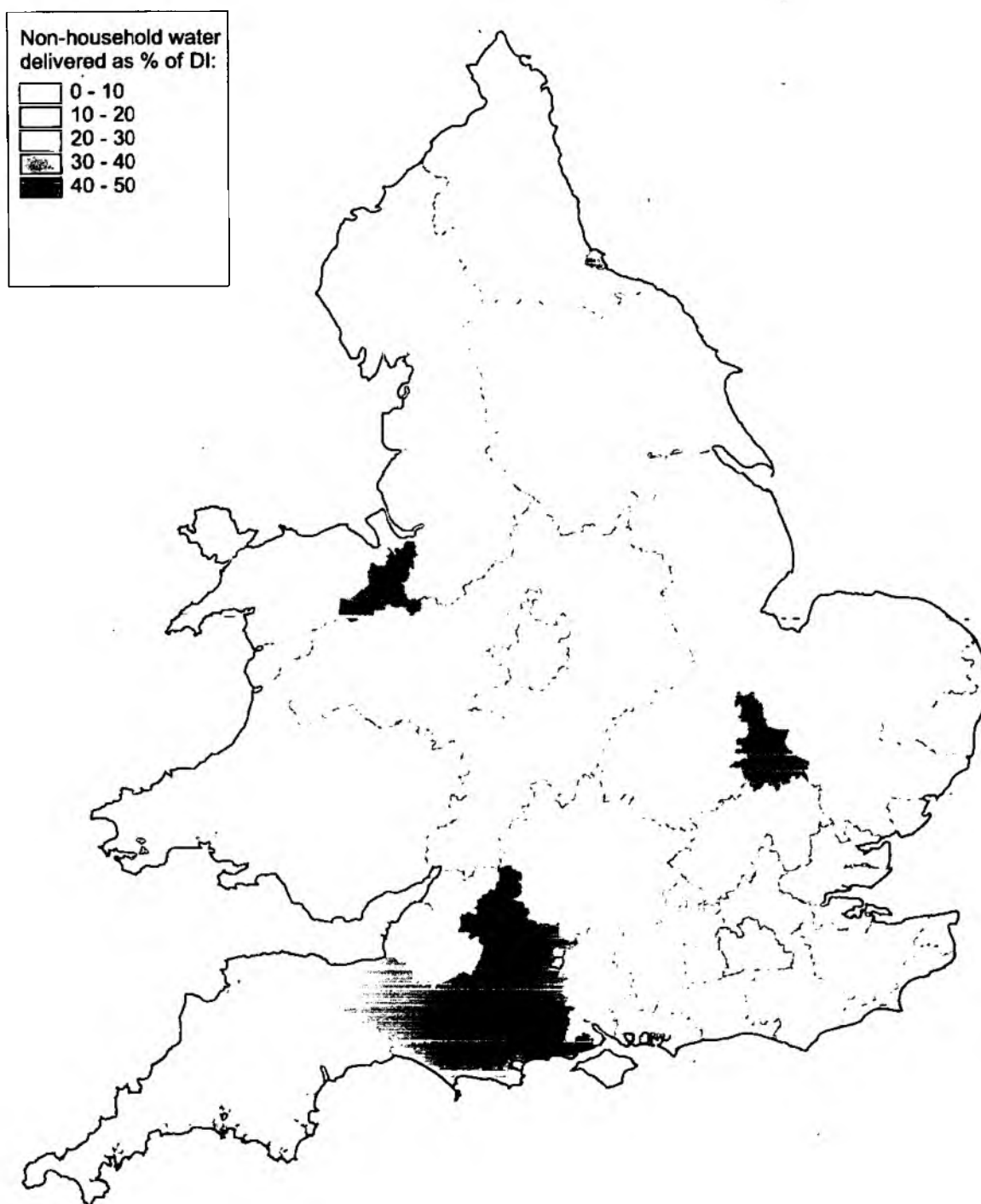


Table 2

<i>Predicted leakage (Ml/d)</i>	<i>Water company annual review submission 1999/00</i>	<i>Final water company plan projections for 00/01</i>	<i>Ofwat target leakage for 2000/01</i>
Anglian Water Services	184.8	248.0	195.0*
Hartlepool Water Company	4.6	4.8	
Cambridge Water Company	12.8	14.9	14.0
Essex & Suffolk Water	73.4	77.8	72.8
Tendring Hundred Water Services	5.4	5.3	5.4
Severn Trent Water	340	335.0	333.0
South Staffordshire Water	75.6	76.1	72.8
Northumbrian Water Plc	167.8	162.2	165.0
Yorkshire Water Plc	316.5*	333.3	308.0**
York		7.6	
North West Water	487.1	511.9	465.0
Bournemouth & West Hampshire Water Plc	22.7	23.7	23.0
Bristol Water Plc	54.0	55.8	54.8
South West Water Limited	83.7	83.9	84.0
Wessex Water Services	88.3	82.6	85.0
Folkestone and Dover Water Services	8.5	8.5	8.4
Mid Kent Water Plc	29.2	28.6	28.9
Portsmouth Water Plc	30.3	30.5	30.0
South East Water Kent & Sussex Region	34.3	34.0	79.1***
South East Water Hampshire & Surrey Region	62.2	44.7	
Southern Water	92.7	92.0	92.0
North Surrey Water Plc	22.6	22.5	22.2
Sutton & East Surrey Plc	24.4	24.5	24.5
Thames Water Plc	657.8	640.7	582.0
Three Valleys Water	121.1	120.1	119.6
Dee Valley Water	12.5	11.6	11.6
Dŵr Cymru - Welsh Water	289.3	271.5	269.0

* Combined figure for Anglian Water and Hartlepool

** Combined figures for York and Yorkshire Water Services

*** Combined figure for South East Water Kent & Sussex Region and Hampshire & Surrey Region

3 Issues raised by water companies

This is the first annual review of plans that cover a period of 25 years. As such we would not expect to see many changes. However, some companies have raised issues that will require further consideration over the coming year.

3.1 Resource availability

Most companies report that their resource availability is in line with their water resources plans. There are a few exceptions, where companies tell us that their previous estimates of deployable output were incorrect. For example, Severn Trent Water tell us that the deployable output for the Elan Valley reservoirs is lower than was thought when the water resources plan was submitted. This affects not only Severn Trent but also Dŵr Cymru Welsh Water and the regulation of the River Wye. We will be investigating Severn Trent Water's work in this area, but the change does not make a significant difference to short-term actions. Most of the companies that planned to increase their deployable output have made good progress. For example, Essex and Suffolk Water have achieved approvals for their Chelmsford effluent re-use scheme. With a deployable output of around 30 Ml/d, this will resolve the immediate problems of security of supply in Essex. In West Cumbria, North West Water have implemented changes to the operation of Ennerdale, increasing deployable output by 18 Ml/d.

In 1999 we reported that some companies had an inadequate supply-demand balance. The companies involved included South East Water and Folkestone and Dover Water. These companies produced water resources plans that aimed to restore target headroom over five to 10 years. We are pleased to report that these companies are making progress towards their target headroom. However, much work is still required and we will work closely with the companies involved to ensure that adequate security of supply is achieved.

Some companies appear to be falling behind on their resource development work. Thames Water has made

little progress on schemes to enhance the security of supply in London. The company tells us that it plans to restore its position over the next three years: we will be monitoring this closely. Severn Trent Water also tells us that some schemes will not be going ahead because of a lack of funding. While this does not present an immediate problem, we will seek clarification from the company.

Several companies have told us that they need to close small groundwater sources because of the risk of pollution and the difficulty of treatment. Companies involved include North West Water, Dŵr Cymru Welsh Water, and Yorkshire Water.

3.2 Demand forecasts

Most companies have revised their demand forecasts. To some extent this is to be expected, as companies have changed their assumptions about the level of metering that will be achieved. However, some companies have told us that they have needed to change their forecasts because demand was unexpectedly high in 1999–2000, while other companies have revised their forecasting methods. We believe that further analysis is required to demonstrate that such changes are appropriate, and we are talking to the companies involved.

3.3 Water efficiency

All companies have reported progress on water efficiency. However, many have told us that it is difficult to estimate the value of water efficiency activity. They believe it is hard to identify specific water savings resulting from individual initiatives. Some companies have reported that schemes appear to offer very good value for money, while others suggest that they are very expensive for the amount of water that is saved. We will continue to urge companies to continue with water efficiency activity. Through the Agency's National Water Demand Management Centre, we will

continue to identify and promote good practice. It is clear that water efficiency has an important part to play in the prudent long-term management of water resources.

3.4 Leakage

We have looked at resource zone leakage in Section 2.4. Most companies tell us that they are approaching their calculated company-wide economic level of leakage, and therefore that they will not be planning to reduce leakage much further. Some companies have told us that they are carrying out, or plan to carry out, similar investigations on a resource zone basis. We believe that all should take this approach. The present tripartite study funded by DETR, Ofwat and the Agency will consider long-term leakage levels and best practice in leakage control.

Two companies have told us that they will not meet Ofwat's target for leakage for 2000–2001. South East Water is confident that it will reach its stricter 2001–02 target. However, Thames Water is in a different position. The company has told us that its target for 2000–01 is uneconomic and that the savings are not required. Part of the company's argument is that leakage control in London is uniquely difficult. We will work with Ofwat to assess the company's claims. The implications for water resources in the long term in the Thames catchment could be significant, as the security of supply for London is at present inadequate.

4 Recommendations

In this report we have considered the first annual review of water company plans. We are pleased to note that all water companies co-operated with this review, providing us with the information that we requested. We are also pleased to be able to report that all water companies continue to have adequate plans for public water supply, although some need to continue to make progress to ensure adequate security of supply.

During our consideration of this information, 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:

- some companies have produced new estimates of future per capita consumption on the basis of 1999–2000 information. We need to look at the robustness of such estimates;
- methods of estimating household occupancy rates seem to play a significant part in the calculation of per capita consumption. We need to consider the relevant sources of information and the consistency of the assumptions adopted by companies;
- water companies have revised their estimates of future meter penetration. We need to consider the effects of these changes.

We will discuss all these issues with Ofwat, DETR, NAW and the water industry (through Water UK).

The issues raised in this report have demonstrated the value of the annual review of water company plans. Ofwat have indicated that they find the annual reviews valuable for monitoring companies' performance in delivering funded outputs. DETR and NAW have told us

that they expect us to continue with these reviews. We will work with DETR, NAW, Ofwat and the water industry to define the information that should be provided for the 2000–01 review. In defining this information, we will be seeking even greater consistency in the review process. We will consult before the end of April 2001 and write to water companies with our requirements during May 2001. It is likely that we will expect 2000–01 submissions to be produced by the end of September 2001.

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