

Service and delivery – performance of the water companies in England and Wales 2007-08

Ofwat – Protecting consumers, promoting value and safeguarding the future



About this document

Two of the key priorities of [‘Ofwat’s strategy – taking a forward look’](#) are to regulate effectively where competition will not protect consumers and to keep companies accountable. We make sure that the water and sewerage sectors in England and Wales deliver the service their consumers expect and meet their legal obligations. We also require them to take responsibility for the needs and concerns of all consumers.

We monitor the performance of the companies in the absence of a competitive market so that we can be sure that they are delivering the services customers are paying for. We also compare aspects of their performance to drive improvements. Consumers can use these comparisons to find out how well their local company is performing. If a company fails to deliver, we take action on behalf of consumers.

This report sets out how the companies performed in 2007-08 in delivering services to consumers. It includes our analysis of companies’ performance and where we are taking action – if necessary – on behalf of consumers. It summarises the companies’ performance:

- in delivering the broad range of services provided to consumers (measured using the overall performance assessment – OPA);
- against minimum service standards (called ‘DG’ or ‘levels of service’ indicators);
- in maintaining their assets for the long term and the investments they have made; and
- in managing water supplies in 2007-08, including dealing with issues such as leakage and flooding.

The report brings together information that was previously published in our ‘Levels of service’ and ‘Security of supply’ reports. It also incorporates the serviceability information that was published previously as part of the ‘Financial performance and expenditure’ report.

The information in the report is drawn from each company’s June return for 2007-08. The data in the report has been verified with the respective sources – the companies, the [Environment Agency](#) and the [Drinking Water Inspectorate](#).

South East Water merged with Mid Kent Water in 2007 to become an enlarged South East Water company. This is the last time we will report on South East and Mid Kent as separate entities.

Detailed supporting information to this document is available on our website at www.ofwat.gov.uk.

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Headline issues

Water is a precious resource and is likely to become more so in years to come. The impact of climate change, the demands of a growing population and rising consumer expectations mean that resources will come under increasing pressure in the future. The companies must develop innovative and robust solutions for the long term.

The companies must provide reliable, high-quality services to consumers and respond to their needs and complaints. We also expect them to maintain their networks of pipes and treatment works so that they continue to deliver a safe, reliable and sustainable supply to their consumers.

In the absence of competition we set the companies challenging service standards that deliver the level of service consumers would choose in a competitive market. We measure and report on a range of key indicators to drive improvement and allow consumers to see how their monopoly supplier is performing. In the long term, we believe that competition could help tackle security of supply issues. We think it will lead to more efficient use of resources and reduced wastage.

We will take action, including enforcement action, if a company fails to meet its obligations and duties to its consumers. We are disappointed to report that we had to take enforcement action against a number of companies in 2007-08.

Company performance in 2007-08

2007 was a challenging year for the companies. Last summer's floods provided a timely reminder to them about the need to guard against complacency and to be prepared to face future challenges. There was widespread flooding in Hull, and the flooding in Gloucestershire, for example, left about 138,000 consumers without water. This was a significant service failure. Although for the most part the network stood up to the extreme weather conditions, the companies must be ready to face similar challenging events should they become more common. (We [reported](#) on the impact of the summer 2007 floods on water and sewerage services in December 2007.)

In general, the companies delivered high levels of reliability and service to most customers in 2007-08. They also addressed issues of particular concern for consumers, and made plans to address their long-term sustainability.

- Most companies are on target to deliver the security of supply that we assumed in our final determinations at the 2004 price review.
- All companies met their leakage targets, although this was against the backdrop of a mild winter.
- Fewer consumers now face the risk of sewer flooding or are at risk of low pressure than in previous years.
- A number of companies have improved the way they maintain their assets and longer-term indicators of serviceability.
- Compliance with statutory requirements for sewage treatment is the best it has been for ten years.
- Companies that had performed badly in responding to consumer contacts in previous years have now resolved these issues. This is in large part by following action plans agreed by us.

We make sure that the companies are delivering the investment programme agreed when we set prices at the 2004 review. In this way, we make sure that they are bringing the benefits consumers have paid for through their bills. The companies are on track, in the main, to deliver their investment programmes. In 2007-08, they continued to invest in the infrastructure.

- Aggregate gross capital investment was £4.9 billion. This is 4% higher than we assumed at the 2004 price review.
- Overall investment is still some 9% behind our expectations for the first three years of the current price limit period (2005-10).
- However, the companies have caught up on capital maintenance. This is 5% above the level we expected by now.
- The companies have also made improvements to the way they manage the water and sewerage network.

The effects of this increased investment and improved management are apparent in a number of areas. For example, we have assessed serviceability as stable in all four sub-services at industry level. We have also upgraded our assessments in ten companies to stable.

Much of this is the result of the significant improvements that a number of companies (Anglian, Bournemouth & West Hampshire, Northumbrian, Southern, Thames, Three Valleys and Yorkshire) made in 2007-08 in response to serviceability action plans we had put in place. We will continue to monitor all the companies and make sure that stable serviceability is delivered.

As a result of our regulatory pressure (and the actions of the companies themselves), the companies have improved significantly the levels of service they provide to consumers since they were privatised in 1989. This is shown in table 1 on page 8. Performance against those service indicators that we measure has largely stabilised at a high level in the past few years. This is also demonstrated through the generally high and close scores within our overall performance assessment (OPA).

Although the companies are making progress, we make sure that they do not become complacent. They face significant long-term challenges for which they must be prepared. Some companies, for example, are already planning on the basis of reduced supplies.

Also, while the companies generally respond well to customer contacts, there are areas where they could improve their performance. For example, there was a drop in performance for the number of complaint letters the companies responded to within ten days. We will continue to scrutinise the companies' performance in this area and make sure that the companies take the steps necessary to address this.

In 2007-08, for the first time, we asked each company to report on its carbon footprint. This will enable the companies to make decisions that will minimise their carbon costs, contributing towards climate change mitigation.

Regulatory action

We take action if a company fails to deliver the levels of service we expect. We make sure it investigates the root cause of the failure and has plans in place to restore service levels as quickly as possible. We then require the company to report progress and deliver agreed action plans. In more serious cases, we may take formal enforcement action.

We are disappointed that the actions of a number of companies resulted in us taking **enforcement action** in 2007-08. We imposed penalties on [Southern](#) and [United Utilities](#) totalling £28.8 million. In addition, we published our proposals to impose penalties on [Severn Trent](#) of £35.8 million for deliberately misreporting financial information to us, and on [Thames](#) for misreporting as a result of inadequate processes. We also imposed financial penalties on Southern, and have proposed financial penalties for Severn Trent and Thames, for failing to comply with guaranteed standards scheme (GSS) Regulations. We regard this as a serious issue and will take action against any company that deliberately misreports data to us. More detailed information on these penalties can be found in the enforcement Notices on our [website](#).

Severn Trent and Southern still have more to do to complete their action plans and fully restore highest planned service levels. We will monitor both companies to make sure this happens. Thames satisfactorily completed its customer service action plan during the year and we will revert to our usual level of monitoring.

We carried out **an investigation during 2007-08 into Three Valleys' customer service data** after it reported to us that it had found evidence of deliberate misreporting of data relating to billing metered customers (DG8 data). The company misreported DG8 information in its June returns for the years 2003-04, 2004-05 and 2005-06. It identified and alerted us to the misreporting in August 2007. Our investigation found no evidence of deliberate misreporting against any other indicator. We have pursued financial penalties in previous cases of deliberate misreporting but were not able to do so in this case because of statutory time restrictions.

In this case, in recognition of the damage to its customers and to the regulatory regime, caused by its deliberate misreporting, Three Valleys will establish a charitable trust in advance of the 2009-10 charging year to provide financial assistance to those of its customers who are having difficulty paying their water bills. It will commit £2.5 million to the trust over the five years from 2009 to 2014, with a donation of £0.5 million in the first year.

Also, as part of our investigation we informed the company that had we been aware that its business plan for 2005-10 was based on misreported information it would not have received an OPA adjustment whereby potentially it would have received more than £938,000 (in 2007-08 prices) over five years, irrespective of its performance. Three Valleys has voluntarily reduced its price limits to return this to customers.

Finally, the company will also retain the £20 customer charter scheme that it introduced, in the year, for customers whose meters remain unread by the company for two years at the year end. This acts as an incentive on the company to ensure all metered customers have their meters read and their bills calculated based on actual usage.

The company acted responsibly in bringing this issue to our attention and we welcome the steps Three Valleys has taken to provide redress to its customers in recognition of its failure.

We are only able to pursue financial penalties if the contravention occurred within the last twelve months. We will seek changes to legislation to extend the period within which we can impose penalties.

We are concerned about United Utilities' **processes for dealing with sewer flooding information**. The company is reviewing the information already held and the way it investigates incidents to improve its understanding of the risk of sewer flooding. Our concerns also arose from particular problems that customers living in the Penketh area of Warrington have experienced.

During the year, **more properties were flooded by sewage for customers of Severn Trent and Northumbrian than we forecast at our 2004 price review**. Both companies have seen a substantial increase in the numbers of properties on the risk registers. They are looking at ways to reduce these numbers. They are also carrying out more work than planned when price limits were set to help offset the increase in flooded properties.

We also raised concerns with Severn Trent, where there were signs of **deteriorating service**. Severn Trent set out an action plan to improve how it reacts to unplanned interruptions to water supplies.

We have required all companies that have had any sub-service assessed with deteriorating serviceability to agree an action plan with us, and as set out above these have delivered clear improvements for a number of companies.

Table 1 Total industry performance 1990-91 to 2007-08

Description	1990-95 %	1995-00 %	2000-01 %	2001-02 %	2002-03 %	2003-04 %	2004-05 %	2005-06 %	2006-07 %	2007-08 %
DG2: Properties at risk of low pressure	1.33	0.35	0.11	0.10	0.06	0.04	0.03	0.03	0.02	0.02
DG3: Properties subject to unplanned supply interruptions of 12 hours or more	0.33	0.21	0.11	0.12	0.05	0.14	0.07	0.08	0.15	0.69
DG4: Population subject to hosepipe bans	14	15	0	0	0	0	0	7	30	0
DG5: Properties subject to sewer flooding incidents (overloaded sewers and other causes)	0.03	0.03	0.03	0.02	0.02	0.01	0.02	0.02	0.02	0.03
DG5: Properties at risk of sewer flooding incidents (once in ten years)	–	0.07	0.09	0.05	0.04	0.03	0.03	0.02	0.02	0.02
DG5: Properties at risk of sewer flooding incidents (twice in ten years) ¹	0.08	0.05	0.03	0.02	0.01	0.01	0.01	0.01	0.01	0.01
DG6: Billing contacts not responded to (within five working days)	21.78	5.39	0.86	1.23	0.53	0.47	0.48	4.44	5.08 ²	2.74
DG7: Written complaints not responded to (within ten working days)	21.42	3.22	0.44	0.66	0.15	0.14	0.31	3.10 ²	3.63 ²	6.80
DG8: Bills not based on meter readings	–	1.51	0.72	0.45	0.16	0.15	0.21	0.52	0.86	0.32
DG9: Received telephone calls not answered within 30 seconds ³	–	16.16	7.64	6.37	5.89 ⁴	5.85 ⁴	4.87 ⁴	–	–	–
DG9: Telephone call handling:										
Calls abandoned		5.40	2.45	1.84	1.70	2.89	2.36	6.74	9.76	7.63
All lines busy					8.86	5.44	1.22	3.91	5.66	3.23
Call handling satisfaction ⁵								4.53	4.47	4.58

Notes:

It is not appropriate simply to add up the totals for each indicator to determine the overall number of customers receiving poor service. Some customers may be included in more than one row. For example, a customer at risk of low pressure (DG2) may also have written to the company to complain (DG7). Where information was not collected, it is shown as a dash.

1. Data collected from 1992-93.
2. Data for some companies has been revised, which has changed performance since last year.
3. Data collected from 1996-97 to 2004-05.
4. This figure is an average of those companies that are able to measure calls answered within 30 seconds accurately.
5. This is a score on a scale of 1 to 5, where 5 is very satisfied.

1. Service – overall performance assessment

The overall performance assessment (OPA) is a method we use to measure and incentivise performance across the broad range of services provided to consumers and the environment. It allows us to compare the quality of the overall service, and tells consumers and other interested parties about how their local water company has performed relative to other companies. The OPA also incentivises companies to improve and maintain services relative to each other because we take account of relative performance when we set the limits for the prices companies charge consumers. The OPA scores for the five years from 2004-05 to 2008-09 will be reflected in the next price review in 2009.

The key areas and contributing measures included are:

- water supply (low water pressure, unplanned interruptions to supply, and drinking water quality);
- security of supply (hosepipe restrictions, leakage, and performance against our security of supply index);
- sewerage service (sewer flooding incidents and risk of sewer flooding);
- consumer service (written complaints, billing contacts, billing metered consumers, telephone answering, telephone access, services to consumers with special needs, supply pipe repair policies, debt and revenue policies, complaint handling, compensation, and provision of information to consumers); and
- environmental impact (sewage treatment works, pollution incidents from water and sewerage activities, and sludge disposal).

The results of our assessment for 2007-08 compared with 2006-07 are shown in figure 1 for the water and sewerage companies and figure 2 for all companies. The OPA scores for each company reflect their performance during the year. The companies with the most failures have the lowest scores.

Tables 2 and 3 show the breakdown of companies' total OPA scores into their component parts. This makes it possible to compare the performance of one company against another for each measure. The maximum achievable score for each measure is shown in the second column of the tables.

In March 2004, following consultation, we published the [methodology for the OPA for 2004-05 onwards](#). Since then, we have published two updates. In April 2005, we [updated](#) the way telephone call handling is assessed to include a measure of consumer satisfaction. In April 2007, we [updated](#) the way security of supply is

reflected by adding measures about company performance to the security of supply index. To accommodate this, we changed the weighting of the leakage and water restriction measures.

We are now reviewing our approach to monitoring consumer service to focus more clearly on what consumers experience. Part of this includes a review of the individual components of the OPA, and how the OPA incentivises companies to deliver services that meet consumers' expectations. There is more information on our review of the OPA in [PR09/09, 'Ofwat's review of the OPA and regulation of service to consumers'](#).

Figure 1 Overall performance assessment – water supply, sewerage service and customer service for water and sewerage companies 2006-07 and 2007-08

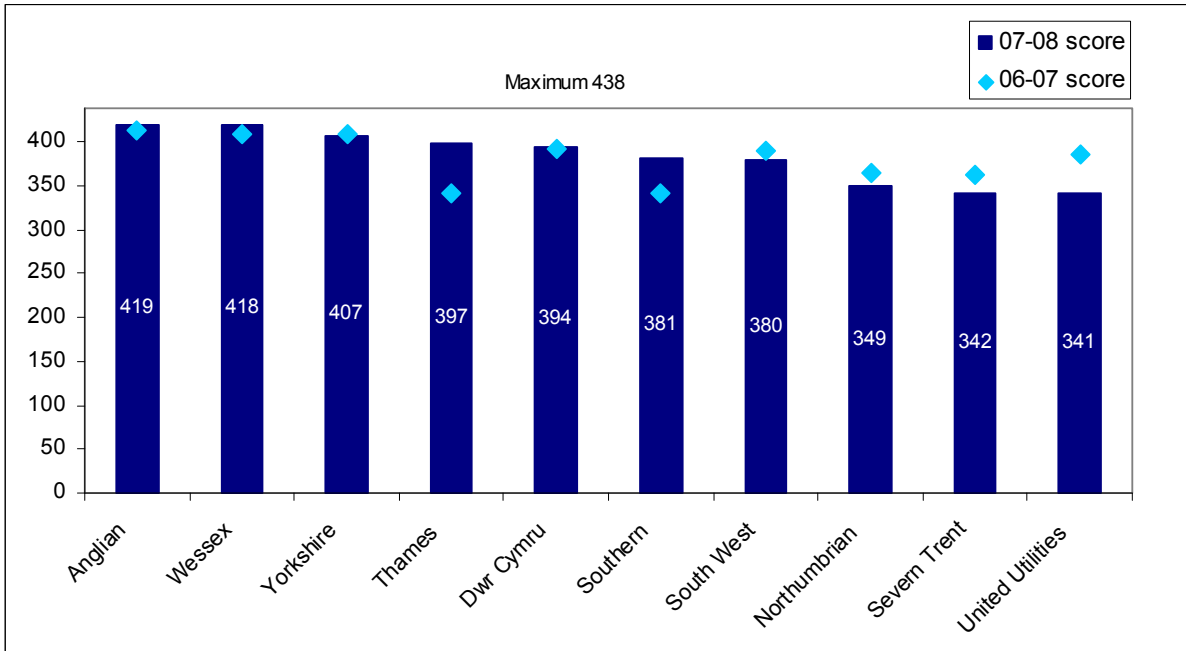


Figure 2 Overall performance assessment – water supply and customer service for all companies 2006-07 and 2007-08

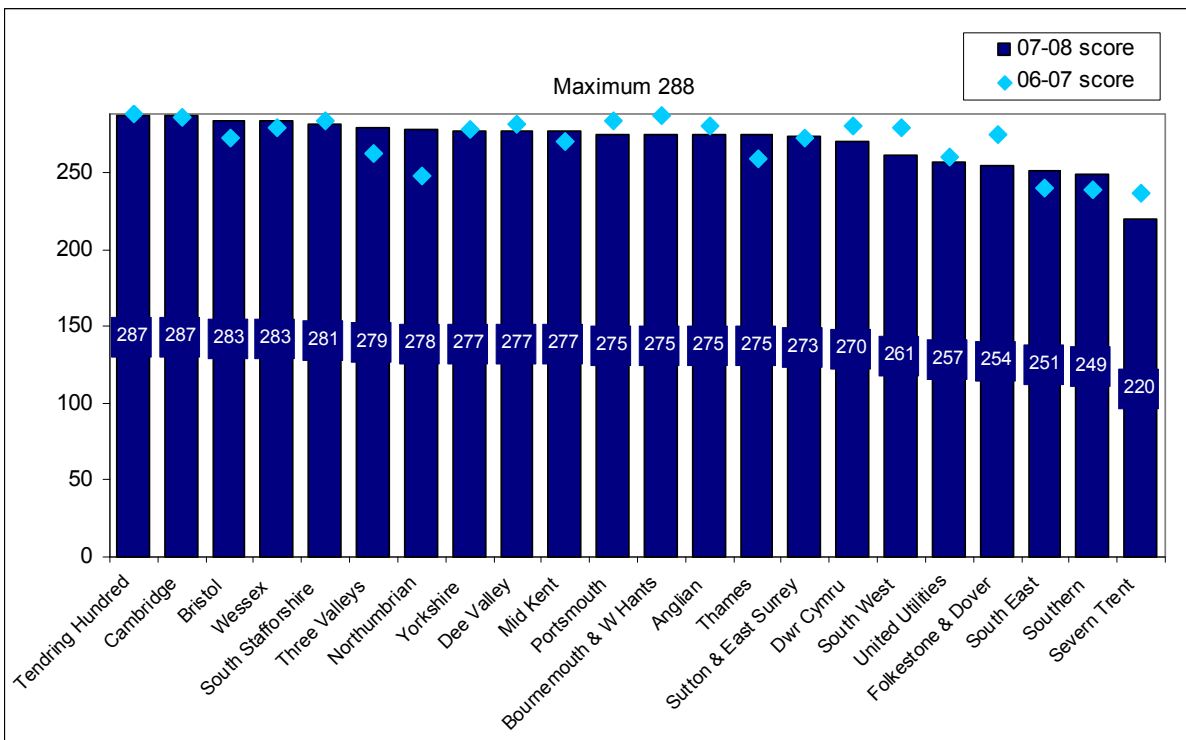


Table 2 Overall performance assessment – water supply, sewerage service and customer service for water and sewerage companies 2007-08

Output	Max Score	Anglian	Dŵr Cymru	North-umbrian	Severn Trent	South West	South-ern	Thames	United Utilities	Wessex	York-shire
Water supply, levels of service											
Properties at risk of low pressure (DG2)	38	35	36	37	34	36	35	37	36	36	37
Properties with unplanned interruptions (DG3)	38	36	33	34	4	26	37	36	26	36	37
Water quality failing DWI standards	50	48	42	44	47	43	47	49	46	48	47
Sewerage service, levels of service											
Sewer flooding incidents (capacity)	25	24	21	3	22	21	25	21	18	22	22
Sewer flooding incidents (other causes)	38	34	27	4	15	24	25	15	4	31	25
Properties at risk of sewer flooding	13	12	10	9	9	12	12	9	12	10	13
Security of supply											
Population with hosepipe restrictions	13	13	13	13	13	13	13	13	13	13	13
Leakage – performance against target	13	13	13	13	11	13	13	13	13	13	13
Security of supply index – absolute performance	13	11	11	13	8	11	11	8	13	13	13
Security of supply index – performance against target	13	10	11	13	13	11	13	13	13	13	13
Customer service											
Company contact score (DG6, 7, 8 and 9 combined)	38	36	38	38	20	34	11	35	24	38	34
Other customer service	38	38	38	38	38	38	33	38	38	38	38
Environmental performance											
Category 1 and 2 pollution incidents – sewage	25	25	21	19	24	19	22	25	25	25	25
Category 3 pollution incidents – sewage	13	11	9	12	11	8	9	13	12	11	12
Category 1 and 2 pollution incidents – water	13	13	13	13	13	13	13	13	12	13	8
Sewage treatment works in breach of their consent	50	50	48	39	50	47	50	50	25	50	46
Sludge disposal	13	13	13	13	13	13	13	13	13	13	13
Total score	438	419	394	349	342	380	381	397	341	418	407
Rank		1	5	8	9	7	6	4	10	2	3

Table 3 Overall performance assessment – water supply and customer service for all companies 2007-08

Output	Max score	Anglian	Dŵr Cymru	Northumbrian (inc. Essex & Suffolk)	Severn Trent	South West	Southern	Thames	United Utilities	Wessex	Yorkshire
Water supply, levels of service											
Properties at risk of low pressure (DG2)	38	35	36	37	34	36	35	37	36	36	37
Properties with unplanned interruptions (DG3)	38	36	33	34	4	26	37	36	26	36	37
Water quality failing DWI standards	50	48	42	44	47	43	47	49	46	48	47
Security of supply											
Population with hosepipe restrictions	19	19	19	19	19	19	19	19	19	19	19
Leakage – performance against target	19	19	19	19	17	19	19	19	19	19	19
Security of supply index – absolute performance	19	17	17	19	11	17	17	11	19	19	19
Security of supply index – performance against target	19	15	17	19	19	17	19	19	19	19	19
Customer service											
Customer contact score (DG6, 7, 8 and 9 combined)	38	36	38	38	20	34	11	35	24	38	34
Other customer service	38	38	38	38	38	38	33	38	38	38	38
Environmental impact											
Category 1 and 2 pollution incidents – water	13	13	13	13	13	13	13	13	12	13	8
Total score	288	275	270	278	220	261	249	275	257	283	277
Rank		13	16	7	22	17	21	14	18	4	8

Table 3 Overall performance assessment – water supply and customer service for all companies 2007-08 (continued)

Output	Max score	Bournemouth & W Hampshire	Bristol	Cambridge	Dee Valley	Folkestone & Dover	Mid Kent	Portsmouth	South East	South Staffordshire	Sutton & East Surrey	Tendingr Hundred	Three Valleys
Water supply, levels of service													
Properties at risk of low pressure (DG2)	38	38	37	37	34	37	35	36	37	38	37	38	37
Properties with unplanned interruptions (DG3)	38	38	37	38	38	36	29	38	38	34	34	37	35
Water quality failing DWI standards	50	49	47	50	47	50	50	49	46	47	49	50	49
Security of supply													
Population with hosepipe restrictions	19	19	19	19	19	19	19	19	19	19	19	19	19
Leakage – performance against target	19	19	19	19	19	19	19	19	19	19	19	19	19
Security of supply index – absolute performance	19	19	19	19	19	2	19	19	19	19	19	19	19
Security of supply index – performance against target	19	19	19	19	19	8	19	19	19	19	19	19	19
Customer service													
Customer contact score (DG6, 7, 8 and 9 combined)	38	38	38	38	38	38	37	38	10	38	38	38	34
Other customer service	38	38	38	38	33	33	38	38	38	38	29	38	38
Environmental Impact													
Category 1 and 2 pollution incidents – water	13	1	13	13	13	13	13	3	8	13	13	13	13
Total score	288	275	283	287	277	254	277	275	251	281	273	287	279
Rank		12	3	2	9	19	10	11	20	5	15	1	6

2. Service – consumer issues

2.1 What consumers experienced

Every year, we check that each company responds to consumer contacts thoroughly and quickly. We also check that customers with meters receive bills based on an actual meter reading rather than an estimate, so that bills are more accurate.

During 2007-08, performance on responding to billing contacts across the companies was better than the previous year, with more than 97% of billing contacts responded to within five days, compared with about 95% in 2006-07. However, performance for responding to complaint letters was worse, with only 93% of correspondence answered within ten working days in 2007-08, compared with 96% in 2006-07. Metered billing performance improved, with 99.7% of metered bills being based on at least one meter reading in the year, compared with 99.1% in 2006-07.

We wrote to all companies about billing systems. We wanted to be reassured that when companies change systems, they take all reasonable steps necessary to avoid consumer contact problems, such as delays to billing or slow responses because staff are not properly trained on new systems.

We also worked closely with companies where particular difficulties affected service levels. We required these companies to set out action plans to deliver improvements and we checked their progress regularly.

- Southern is working to improve the way it responds to contacts from consumers. The company's efforts saw service levels improve significantly towards the end of 2007-08, in line with its action plan. At our request, Southern underwrote its action plan with a guarantee for consumers that if it failed to meet its targets, it would pay consumers due to receive [guaranteed standards scheme](#) (GSS) payments a higher amount than usual.
- Severn Trent is also working to improve its response to consumer contacts. Its performance in 2007-08 was significantly better than that in 2006-07, in line with its action plan.
- South East's performance in responding to consumer contacts and in basing bills on meter readings (rather than estimates) was affected in the early part of 2007-08 by problems with a new billing system introduced in 2005-06. The company's current performance is good.
- Other companies, including United Utilities and Mid Kent, had short-term difficulties responding to consumer contacts during the year. These have now been resolved and service restored.

- Anglian experienced some short-term problems when it upgraded its customer billing system. For a time consumers found it difficult to reach the company by telephone and as a result the number of written complaints (letter and e-mail) increased.

The [GSS Regulations](#) set out standards for how each company should respond to written complaints and written contacts about customer accounts. These are similar to our DG6 and DG7 indicators. About 26,000 consumers received payment from their company under the GSS Regulations or company charter schemes in recognition of late responses to correspondence.

The Regulations also set out standards for how each company deals with consumers it needs to visit. We monitor this to make sure that appointments are made properly and attended on time. About 7,400 consumers received payment from their company in recognition of appointments where company representatives gave short notice of cancellation, turned up late or missed the appointment.

We also check how easy it is for consumers to deal with the companies by telephone. We monitor whether consumers can get through when they call and how satisfied they are with the way their call was handled. We use an annual satisfaction survey, which involves an independent market researcher questioning about 400 callers for each company. The survey covers many aspects of the telephone call experience, including consumers' satisfaction with:

- the number of times they had to telephone before the call was answered;
- the number of staff they spoke to;
- the length of time they were put on hold;
- how easy any automated systems were to use; and
- how polite the staff were.

In general, across all companies the majority of consumers were satisfied or very satisfied with telephone services. In 2007-08, industry average satisfaction levels increased slightly to 4.6 (on a scale of 1 to 5 where 1 is very dissatisfied and 5 is very satisfied). In the previous two years (2005-07) the industry average score was 4.5.

The companies' annual returns to us also include information on the reasons why consumers have complained. The [Consumer Council for Water \(CCWater\)](#), which handles customer complaints, publishes an annual report about this.

2.2 How does this compare with companies' commitments?

For the period 2005-10 companies have to maintain or exceed specified levels of consumer service. These reflect the previously established high levels of service, with all companies aiming to deliver better than our 'good' criteria for consumer contact service levels. We take action against companies if they fall short of these targets.

2.3 Looking ahead

Since September 2007 we have been working with a group of stakeholders to develop new consumer experience measures. The group comprises representatives from a cross-section of water companies and CCWater. We have developed two new measures with this group.

- A quantitative indicator that measures complaints and unwanted contacts.
- An independent survey to evaluate the quality of service experienced by consumers who have direct contact with the company.

Companies are currently testing the methodology for collecting complaints and contact data. The survey will be tested later in 2008-09. [RD04/08, 'Development of consumer experience measures'](#), sets out the background to this work in more detail.

3. Delivery – water service

3.1 What consumers experienced

2007-08 was a challenging year for the companies. The widespread flooding during the summer affected a number of consumers, and the closure of the Mythe treatment works, for example, was the biggest service impact for many years. Despite these problems, in general the network stood up to the extreme conditions and most companies continued to deliver a safe supply of drinking water. No water restrictions were imposed and compliance with drinking water standards remained very high at 99.96% (for the 2007 reporting year).

In 2007, 128 incidents affecting drinking water quality in England and Wales were reported to the Drinking Water Inspectorate (DWI). This compares with 98 incidents in 2006. The DWI has or will be investigating all of these incidents in full.

As a result of the companies' better network management and mains improvements, together with a lower peak demand because of the wet summer, the number of properties at risk of low water pressure fell in 2007-08. Only 4,825 properties were at risk of low water pressure at the end of March 2008, compared with 5,460 at March 2007. This is out of a total of almost 24 million connected properties in England and Wales. About 1,700 consumers received payments from their company under the GSS Regulations or company charter schemes in recognition that low pressure had affected their properties.

The number of consumers experiencing unplanned interruptions to their water supply increased in 2007-08, compared with the previous year. The number of properties affected by interruptions that lasted longer than 24 hours increased from about 13,000 to 138,000. However, the vast majority of these incidents related to the closure of the Mythe treatment works because of flooding in Gloucestershire. (Our [report](#) on the summer 2007 floods is available on our website.) In the rest of England and Wales fewer than 1,400 properties were affected by unplanned interruptions that lasted longer than 24 hours.

About 170,000 consumers received payment from their company in recognition that their water supplies had been interrupted for an extended period, either in an emergency or because planned work had overrun. Another 15,000 payments were made to consumers who were not given advance notice of a planned interruption to supply. GSS payments were not made to consumers following the closure of the Mythe treatment works because this was the result of exceptional weather.

3.2 How does this compare with companies' commitments?

Each company has a duty to ensure the security of its water supplies. We use a security of supply index (SoSI) to assess whether each company is complying with this duty. The SoSI also enables us to assess leakage, water resource and demand management issues in a wider context, and to track changes in the service companies offer to consumers over time.

When we last set price limits in 2004 we expected all companies to achieve or maintain a security of supply score of 100 by 2009-10 (assuming average daily conditions during a dry year). Most companies are on course to deliver this.

We expect companies to balance water supply and demand in a way that provides the best value for consumers and the environment. In order to achieve that, each company has targets to control leakage. Metering and the efficient use of water by consumers also contribute to balancing supply and demand. We monitor the companies' progress with these measures through the June return.

The companies are also required to manage and invest in their assets so that they can provide services to consumers over the long term, while protecting the environment. We refer to this as maintaining 'serviceability'. Companies have minimum levels of service to maintain and we monitor their performance against these.

They also have programmes in place for improving water quality. Again, we monitor the companies to ensure that they deliver the programmes that were allowed for when we last set price limits in 2004.

We discuss the companies' performance in each of these areas in more detail below.

3.2.1 Security of supply performance

Table 4 sets out for each company the SoSI results for 2007-08. The results are presented for both the dry year annual average conditions (which reflect the average daily conditions during a dry year) and critical period conditions (which reflect 'peak' conditions, against which companies plan their capacity, for example during a summer period where demand is significantly higher than average). The results reflect each company's resource position for its planned level of service as at 31 March 2008. They are not directly comparable because different companies plan for different levels of service.

In 2007-08, two companies improved their SoSI score for their planned level of service and one company's score fell significantly.

- South East improved from band B (marginal deficit) last year to band A (no deficit) this year, while Southern improved from band C (significant deficit) to band B. This is because the companies have reassessed the water that is available for use. Southern also reduced its leakage to below-target levels.
- The score for Northumbrian (Essex & Suffolk) decreased from band B in 2006-07 to band C. The reason for this reduction is that less water is available for transfer from the River Ely/Ouse than the company had previously assumed.

Most companies are on target to deliver the security of supply that we assumed at the 2004 price review. Some companies have revised down their assessment of their supply/demand balance as part of the process of updating their water resource management plans. All companies are updating these plans, which are currently in draft form. The plans forecast available supplies and changes in demand over the next 25 years, and set out how companies will continue to supply water. In formulating these plans, each company needs to take account of the latest information, including the impact of climate change.

The results presented in table 4 reflect the companies' latest view of security of supply, consistent with their draft water resource management plans. South West, Anglian, and Folkestone & Dover are behind the expectations for their security of supply that we had at the 2004 price review.

We are currently working with the companies to resolve differences of opinion on the assumptions included in their draft water resource management plans as part of the 2009 price review. Companies are due to publish their final plans in spring 2009.

Table 4 Security of supply index banding 2007-08

Company	Security of supply index for dry year annual average conditions	Security of supply index for critical/peak conditions ¹	Rank ²	Change in banding since 2006-07
Bournemouth & West Hampshire	A	B	1	=
Bristol	A	n/a	1	=
Cambridge	A	n/a	1	=
Dee Valley	A	n/a	1	=
Mid Kent	A	A	1	=
Northumbrian (North East)	A	A	1	=
Portsmouth	A	A	1	=
South East	A	B	1	+
South Staffordshire	A	A	1	=
Sutton & East Surrey	A	C	1	=
Tendring Hundred	A	n/a	1	=
Three Valleys	A	B	1	=
United Utilities	A	A	1	=
Wessex	A	A	1	=
Yorkshire	A	A	1	=
South West	B	n/a	16	=
Dŵr Cymru	B	B	17	=
Anglian	B	B	18	=
Southern	B	B	19	+
Severn Trent	C	n/a	20	=
Thames	C	C	20	=
Northumbrian (Essex & Suffolk)	C	n/a	22	-
Folkestone & Dover	D	C	23	=

Key	
A	No deficit in any zone
B	Marginal deficit
C	Significant deficit
D	Large deficit

Notes:

Rank is based on planned levels of service.

1. Not all companies report against critical period conditions.
2. Rank and change in banding is based on dry year annual average conditions.

Leakage performance

We require each company to maintain leakage at a level that provides the best value for its customers and the environment. All of the companies in England and Wales met their leakage targets in 2007-08. Table 5 shows company estimates of total leakage and future targets for the current price limit period, in megalitres per day (MI/d).

Table 5 Company estimates of total leakage (MI/d)

	Performance			Target		
	2005-06	2006-07	2007-08	2007-08	2008-09	2009-10
Water and sewerage companies						
Anglian	215	200	210	210	210	210
Dŵr Cymru	225	210	205	205	195	195
Northumbrian (North East)	155	145	135	155	150	150
Northumbrian (Essex & Suffolk)	67	68	68	68	67	66
Severn Trent	540	525	490	505	500	500
South West	84	83	84	84	84	84
Southern	93	82	83	92	92	92
Thames	860	790	715	755	715	685
United Utilities	475	470	460	465	465	465
Wessex	73	72	72	74	74	74
Yorkshire	295	295	295	295	295	295
Water only companies						
Bournemouth & W Hampshire	22	22	22	22	22	22
Bristol	53	54	53	54	54	54
Cambridge	13.9	13.4	13.9	14.0	14.0	14.0
Dee Valley	11.3	10.6	10.3	10.5	10.4	10.2
Folkestone & Dover	8.0	7.8	7.9	8.2	8.1	8.0
Mid Kent	28	27	27	27	27	27
Portsmouth	30	29	30	30	30	30
South East	69	69	69	69	69	69
South Staffordshire	73	73	72	75	75	75
Sutton & East Surrey	24	24	24	25	25	25
Tendring Hundred	5.1	5.1	5.0	5.1	5.1	5.1
Three Valleys	150	145	140	145	145	140
Industry	3,575	3,420	3,290	3,410	3,350	3,320

Notes:

Numbers may not add up due to rounding.

- Twelve-month rolling averages.
- With regards to rounding, the following rules have been applied: performance and targets less than 20 MI/d are given to one decimal place; less than 100 MI/d are given to 0 decimal places; and greater than 100 MI/d are rounded to the nearest 5 MI/d.

Severn Trent passed its leakage target this year, after two years of failures. In 2007, we secured a legally binding undertaking from the company to meet its reduction targets. It has made significant reductions this year, and we are pleased with how the company has progressed. We will continue to monitor the company's performance closely against the undertaking during 2008-09 through audited quarterly reports.

Thames also passed its leakage target, for the second year in a row. It provided a legal undertaking in 2005-06 to meet future targets. Again, we will continue to monitor progress against this undertaking in 2008-09.

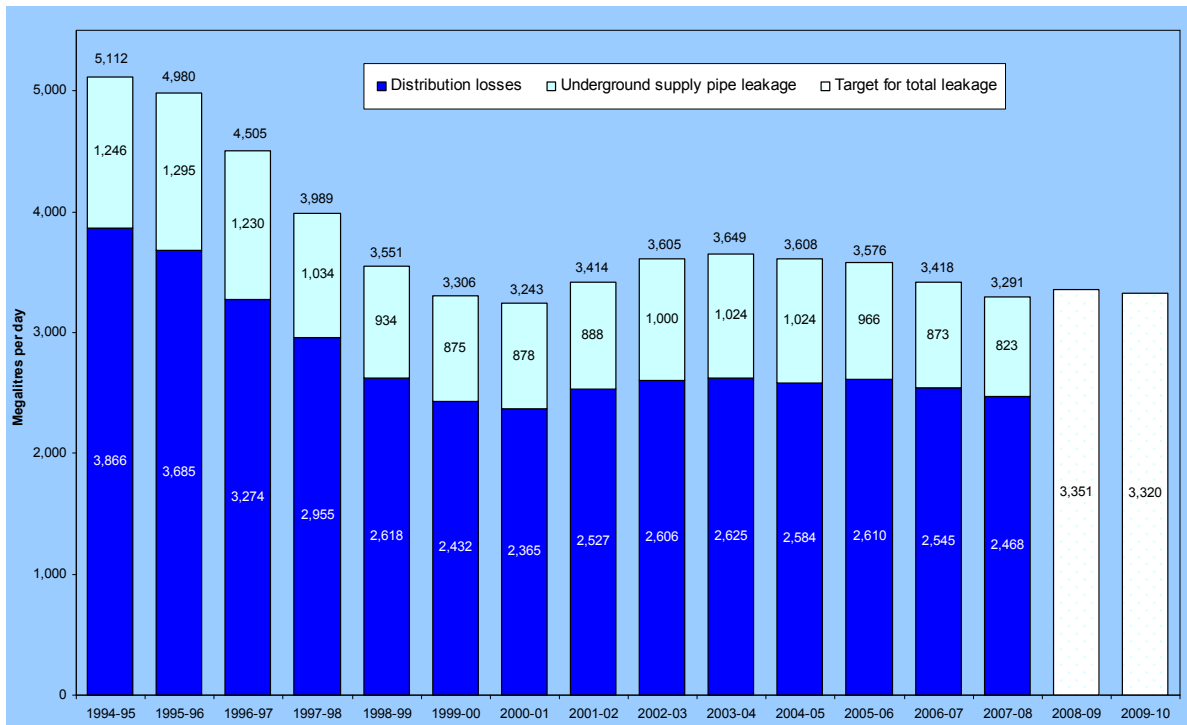
This continued monitoring will allow us to take swift enforcement action should either company fail to deliver its commitments.

Compared with 2006-07, leakage across the companies fell by 127 Ml/d. Leakage has now fallen for four consecutive years and is 36% lower than at its peak in the mid-1990s. A number of companies have reported leakage significantly below their target level for 2007-08.

Some companies, such as Thames and Severn Trent, have increased their expenditure on leakage significantly. This has led to a more substantial reduction in leakage than their current targets required. However, these reductions will stand those companies in good stead to meet their increasingly demanding targets in the next two years. Some other companies that have outperformed their targets have attributed this significant reduction to favourable weather conditions in 2007-08. The relatively mild conditions reduced significantly the number of bursts caused when the ground around water pipes freezes and thaws. In these cases, we would not require the company to maintain this lower level of leakage this year and next, but we will expect all companies to maintain their focus on this issue.

Figure 3 shows the industry annual leakage estimates from 1994-95 and the targets until 2009-10. Each bar represents total leakage, split between leakage on company pipes (distribution losses) and leakage on consumers' pipes (underground supply pipe leakage).

Figure 3 Total industry leakage 1994-95 to 2009-10



Note:

Numbers have not been rounded.

Key estimates and assumptions about leakage and consumers’ water use for 2007-08 can be found in the supporting information to this report.

Water efficiency performance

In 2007-08, the companies delivered a broadly similar level of water efficiency activity to last year, when they reported an increase in activity because of the drought in summer 2006. Expenditure was stable at around £30 million. Companies reported water savings of about 63 MI/d compared with 65 MI/d in 2006-07. The slight fall in the level of savings compared with 2006-07 may be because consumers took a keener interest in water efficiency in 2006-07 in response to the drought.

As in previous years, the bulk of the savings reported was the result of companies’ activity in repairing and replacing consumers’ supply pipes. In 2007-08, this activity delivered 46 MI/d of reported savings, an increase of 4 MI/d on the previous year, representing 69% of total water efficiency savings. The savings from other activities fell slightly from 22.6 MI/d to 20.2 MI/d, and as a proportion of total reported savings, from 35% to 31%.

We provide more detailed information about companies’ supply pipe policies in the supporting information to this report.

Companies distributed more than 450,000 **cistern displacement devices** to consumers in 2007-08. This is a similar number to previous years, with the exception of 2006-07 when there was a significant increase (80% higher than in 2005-06) in the number of devices distributed in response to the drought.

The most common way to distribute cistern devices is to provide them when consumers request them. On average, companies assumed that consumers installed 70% of the devices. This is in line with our expectations as highlighted in our '[Water efficiency initiatives good practice register](#)'.

The companies also offer and provide **other water saving devices** to consumers either free of charge or at a subsidised cost. Of these, the most widely promoted are water butts, with companies distributing almost 120,000 butts in the last two years (although, as with cistern displacement devices, the number distributed last year was lower than in 2006-07).

The number of **household water audit** packs distributed to household consumers rose to more than five million in 2007-08, an increase of 24%. A number of companies distribute audits to all consumers when they send out bills; others take a more selective approach and advertise their availability on company websites or in literature sent to consumers, then send audits on request.

The number of audits that companies carried out fell in 2007-08, after more than doubling the previous year. This is attributed mainly to a fall in the number of audits that Mid Kent and Southern carried out.

The number of **non-household water audit** packs distributed has fallen by more than 40%. Although South West reported a significant increase in the number of audits distributed, Thames, Yorkshire and Portsmouth have all reported significant reductions that have contributed to the fall in the total across the water and sewerage sectors.

Despite a reduction in the number of audit packs that Thames distributed (to be completed by customers), the company has increased the number of audits it has carried out at commercial premises, mainly when performing Water Regulations Inspections. This has resulted in an increase of 60% at industry level.

Table 6 Industry progress in promoting water efficiency

	2003-04	2004-05	2005-06	2006-07	2007-08	Total
Supply pipe repairs:						
Number repaired	52,907	49,031	53,482	51,186	52,460	259,066
Number repaired free	48,122	43,318	36,710	33,871	32,381	194,402
Number charged for	4,785	5,713	16,772	17,315	20,079	64,664
Supply pipe replacements:						
Number replaced	6,472	6,027	8,375	9,284	10,721	40,879
Number replaced free	3,010	2,255	2,433	2,656	4,675	15,029
Number charged for	3,462	3,772	5,942	6,628	6,046	25,850
Cistern devices:						
Number distributed to households	480,421	474,622	427,279	760,237	456,309	2,598,868
Number installed	209,387	226,420	265,818	523,449	314,474	1,539,548
Percentage installed	44%	48%	62%	69%	70%	59%
Water butts:						
Number distributed				85,530	34,283	119,813
Number installed				81,806	32,848	114,654
Household water audits:						
Household water self-audit packs distributed by company	2,869,983	4,210,258	4,838,237	4,037,825	5,314,150	21,270,453
Household water audit completed by company or agent	11,797	8,110	4,699	11,961	7,282	43,849
Non-household water audits:						
Water self-audit packs distributed to commercial consumers by company	34,232	42,863	52,125	78,428	48,621	256,269
Water audits at commercial premises completed by company or agent	1,010	866	1,012	3,082	7,931	13,901
Total savings/costs:						
Total savings achieved/assumed (Ml/d)	65	54	46	65	63	294
Total cost of initiatives (£000s)	25,762	22,902	24,995	30,940	30,105	134,704
Unit cost of savings (p/m ³)	109	115	150	131	131	126

Trends in metering

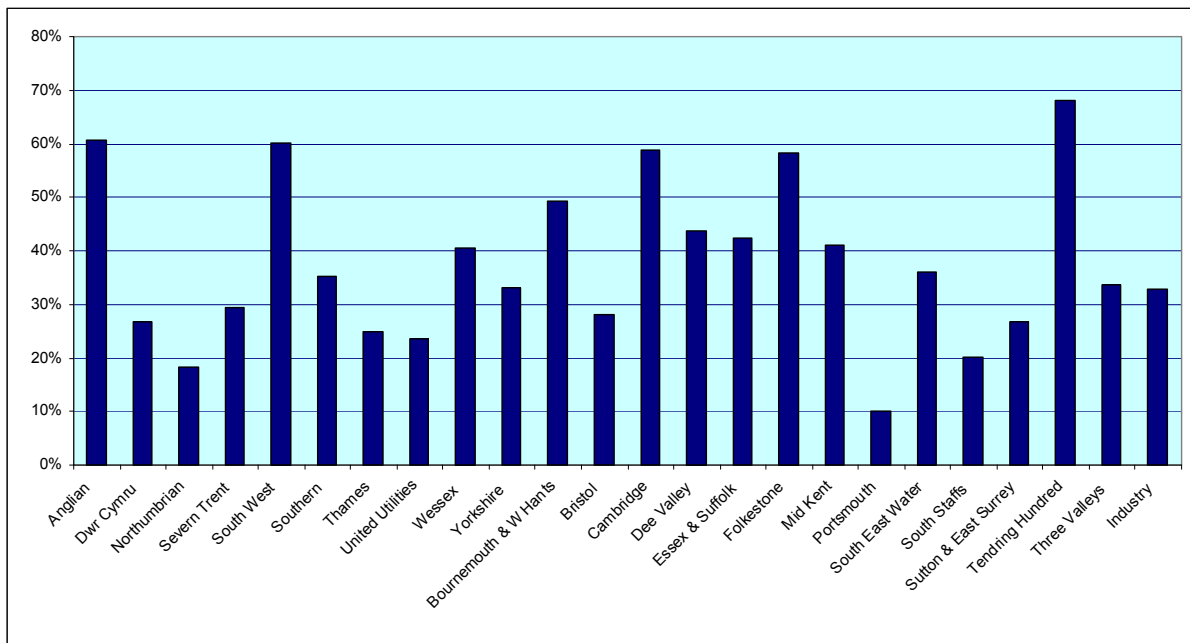
In 2007-08, the companies installed 346,000 meters in household properties, 45,000 more than we assumed at the 2004 price review. Of these, 284,000 consumers asked for meters to be installed, and the companies selectively metered a further 62,000 consumers in existing billed properties.

Over the first three years of the current price limit period, companies have installed almost 200,000 meters more than we assumed at the 2004 price review. However, United Utilities has fallen further behind this year in its overall metering programme, and is now the only company that is behind on our expectations. Eight companies have fallen behind with their selective metering programmes.

We will continue to monitor these companies closely, and expect them to catch up between now and 2010.

At the last price review, our expectation was that the percentage of metered domestic properties would rise from 26% in 2004-05, to 35% by 2009-10. The figure stands at 33% at the moment. Figure 4 shows current levels of meter penetration at company level.

Figure 4 Household meter penetration 2007-08



3.2.2 Managing the assets

Companies have agreed minimum levels of service to maintain each year. This includes the number of properties at risk of low pressure. The number of properties at risk fluctuates because companies work to resolve low pressure as it is identified. During 2007-08, Severn Trent identified more properties at risk of low pressure than it resolved, so the company did not meet its target performance level. However, Severn Trent has confirmed that it will be back on target for 2008-09. All other companies met their performance targets for properties at risk of low pressure.

When we set price limits for the period 2005-10, we allowed Severn Trent funding to provide an additional service so that when consumers on shared supplies replace their part of the pipe work the company will provide a separate supply. Not as many consumers as expected have taken up this offer and we will take account of this when we next set price limits in 2009.

Companies also have targets to keep the number of properties affected by unplanned interruptions to supply lasting more than six hours below agreed levels. These numbers also fluctuate each year as, for example, interruptions in highly populated areas have more of an impact than in less populated areas. Nevertheless, we still expect companies to meet targets most of the time.

Severn Trent failed to meet its target in 2007-08. We have met with the company to discuss its plans to improve over the next two years.

Every year, we publish how well each company is maintaining its assets in our serviceability assessments. Serviceability is our measure of the capability of a company's system of assets to deliver the right level of service to consumers now and in the future. This is a key part of our work to safeguard the long-term sustainability of services. Our annual assessments are informed by trends in service and asset performance from information accumulated from successive June returns. We make separate assessments for above-ground and underground asset systems.

Serviceability is ranked (from best to worst) as 'improving', 'stable', 'marginal' or 'deteriorating'. As a minimum, we require the companies to maintain (or achieve and maintain) stable serviceability. If a company's serviceability is assessed as deteriorating, we will intervene and require it to produce a corrective action plan to recover performance and deliver stable serviceability. An explanation of serviceability can be found in the supporting information to this report.

Table 7 shows the serviceability assessments at company level, by sub-service for 2007-08. Across the water and sewerage sectors, serviceability is stable in both the above-ground and underground systems for the water service, and companies with action plans are now delivering significant improvements in performance. While we have seen significant improvements, with a number of companies successfully restoring stable serviceability, all companies need to continue to focus on making sure that stable serviceability is maintained. We will take action against any companies that fail to deliver stable serviceability.

Table 7 Water and sewerage serviceability assessments for 2007-08

	Water infrastructure		Water non-infrastructure		Sewerage infrastructure		Sewerage non-infrastructure	
Water and sewerage companies		Bursts		WTW samples with coliforms		Collapses and blockages	STWs non-compliant	
Anglian	Stable	*	Stable	•	Stable	•	Stable	*
Dŵr Cymru	Improving	•	Stable	▼	Stable	▼	Stable	•
Northumbrian	Stable	•	Stable	•	Stable	•	Stable	•
Severn Trent	Stable	•	Improving	*	Marginal	•	Stable	•
South West	Stable	•	Stable	•	Stable	•	Stable	▼
Southern	Stable	•	Stable	▼	Marginal	•	Stable	*
Thames	Stable	▼	Stable	•	Stable	▼	Marginal	*
United Utilities	Stable	•	Stable	•	Stable	•	Marginal	▼
Wessex	Stable	•	Stable	▼	Stable	•	Stable	•
Yorkshire	Stable	▼	Stable	•	Stable	•	Stable	•
WaSC assessment	Stable		Stable		Stable		Stable	

Water only companies

Bournemouth & W Hampshire	Stable	*	Stable	•
Bristol	Stable	•	Stable	*
Cambridge	Stable	•	Stable	*
Dee Valley	Stable	•	Stable	*
Folkestone & Dover	Stable	*	Stable	▼
Mid Kent	Stable	•	Stable	▼
Portsmouth	Improving	*	Stable	*
South East	Stable	•	Stable	•
South Staffordshire	Stable	▼	Stable	•
Sutton & East Surrey	Stable	*	Stable	*
Tendring Hundred	Stable	*	Stable	*
Three Valleys	Marginal	▼	Stable	▼
WoC assessment	Stable		Stable	
Industry assessment	Stable		Stable	

Key

* = Better than industry average performance by over 50% (25% for bursts); • = Between +/- 50% (25% for bursts) of industry average performance; ▼ = Worse than industry average performance by over 50% (25% for bursts).

In MD212, 'Asset management planning to maintain serviceability', we signalled our intention that if a company cannot demonstrate stable serviceability at the next price review in 2009, we will treat this as a shortfall in service delivery. We will make appropriate financial adjustments so that consumers do not pay for a level of service they have not received. This should act as an incentive to the companies to continue to focus on this critical area of their activities. The success we are seeing in the companies' ability to deliver stable serviceability builds a suitable foundation for capital maintenance needs in the future.

In 2007-08, we upgraded our assessment of 14 sub-services to stable, six in water infrastructure, four in sewerage infrastructure and four in sewerage non-infrastructure; in some cases this followed changes in permitted standards or a change to historical data. We assessed five sub-services as less than stable (marginal). In the water service, only Three Valleys has one of its sub-services in a less than stable category (marginal).

We have subjected our serviceability assessments to quality control checks, including a statistical analysis and an overview by an independent expert. The feedback report from the external review can be found in the supporting information to this report.

Companies carry out various activities to maintain serviceability in the water service. During 2007-08, the companies rehabilitated 4,217 km of water mains (1.2% of the network). Across the water and sewerage sectors, this combination of relining and renewal activity is broadly in line with the average since 1990-91. Programmes of mains cleaning complement this activity. We discuss sewerage service activity in more detail in chapter 4.

Several companies' mains rehabilitation rates have decreased since completing their section 19 undertakings (which are aimed at reducing the risk from discolouration). Thames in particular has continued to increase its mains rehabilitation activity (renewal) to reduce leakage and to achieve stable serviceability of its infrastructure assets.

The amount of capital maintenance activity that the sectors carried out in 2007-08 is set out in table 8, while table 9 shows the levels of infrastructure maintenance over the last ten years. Table 10 shows the trends in network activity levels by company since 1990-91.

Table 8 Activity in 2007-08

	Mains renewed and relined (km)	Existing water treatment works refurbished ¹	New or enhanced water treatment works ²	Pumping stations refurbished	Service reservoirs and water towers refurbished
Water service					
Anglian	162	2	4	7	0
Dŵr Cymru	533	1	1	0	0
Northumbrian	374	5	1	4	2
Severn Trent	330	3	8	2	3
South West	485	1	1	0	1
Southern	34	5	2	3	0
Thames	631	5	1	2	2
United Utilities	739	4	28	2	7
Wessex	58	5	3	2	9
Yorkshire	473	8	3	2	0
Bournemouth & W Hampshire	5	1	0	2	0
Bristol	26	0	2	0	0
Cambridge	13	0	1	0	0
Dee Valley	11	0	0	0	0
Folkestone & Dover	1	1	0	0	0
Mid Kent	14	2	1	0	0
Portsmouth	27	0	1	0	0
South East	25	2	0	0	0
South Staffordshire	69	0	0	0	0
Sutton & East Surrey	47	1	0	0	0
Tending Hundred	5	0	0	0	0
Three Valleys	155	2	1	8	10
Water service total	4,217	48	58	34	34
	Sewers renovated and replaced (km)	Sewage treatment works refurbished	New or enhanced sewage treatment works ¹	Sludge treatment works refurbished ¹	Pumping stations refurbished
Sewerage service					
Anglian	76	6	7	0	9
Dŵr Cymru	33	13	3	5	1
Northumbrian	17	8	1	1	10
Severn Trent	29	12	22	1	18
South West	17	4	6	2	10
Southern	38	17	25	2	0
Thames	83	25	8	5	9
United Utilities	69	2	17	2	4
Wessex	43	10	5	0	4
Yorkshire	10	17	9	4	6
Sewerage service total	415	114	103	22	71

Note:

1. Activity shown represents 10% or more of the gross replacement cost of the asset involved (or £100,000 or more).

Table 9 Activity on underground assets – water and sewerage sectors

Industry totals	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
Water service										
Water mains relined (km)	1,899	2,115	1,597	2,275	1,877	1,846	1,660	1,595	1,469	1,141
Water mains renewed (km)	3,893	4,082	2,489	2,799	2,831	2,725	2,362	2,702	3,096	3,074
Communication pipes replaced (number)	258,191	239,156	157,268	146,393	113,390	123,469	107,527	117,348	147,223	163,389
Sewerage service										
Critical sewers renovated (km)	182	104	132	94	105	68	60	81	144	105
Critical sewers replaced (km)	80	85	54	40	77	47	39	53	97	101
Non-critical sewers renovated (km)			52	71	96	82	72	66	103	106
Non-critical sewers replaced (km)			53	60	112	82	86	88	99	104

Table 10 Activity on underground assets by company – 1990-91 to 2007-08

	Water mains relined (km)	Water mains renewed (km)	Communication pipes replaced	Critical sewers renovated (km)	Critical sewers replaced (km) ¹
Water and sewerage companies					
Anglian	446	5,652	292,786	167	105
Dŵr Cymru	2,035	5,573	258,519	74	181
Northumbrian	3,819	4,145	240,239	412	39
Severn Trent	7,104	8,016	637,896	188	407
South West	4,097	1,487	73,491	51	20
Southern	519	830	106,836	57	52
Thames	4,787	2,062	323,424	396	257
United Utilities	208	12,737	695,328	403	299
Wessex	975	1,225	51,826	191	42
Yorkshire	5,361	3,540	127,796	72	48
Water only companies					
Bournemouth & W Hampshire	24	109	33,954		
Bristol	256	494	50,464		
Cambridge	24	237	7,242		
Dee Valley	227	212	31,201		
Folkestone & Dover	165	47	10,718		
Mid Kent	425	363	29,493		
Portsmouth	14	532	54,518		
South East	2,503	637	71,313		
South Staffordshire	7	901	55,743		
Sutton & East Surrey	248	544	28,788		
Tendring Hundred	90	148	11,859		
Three Valleys	568	1,348	174,595		

Note:

1. The figures for critical sewers replaced are from 1991-92 only.

3.2.3 Delivering the water quality programme

Almost all of the schemes for improving drinking water quality that we assumed at the 2004 price review would be completed by now have been completed. The few exceptions to this have been compensated by the early completion of other projects during this period.

The completed schemes include projects for improving drinking water quality for nitrate, microbiological parameters including cryptosporidium, and aesthetic parameters like discolouration, taste and odour. The remaining part of the current investment programme will deliver schemes addressing similar parameters.

In addition to the quality programme, we expected Severn Trent to improve consumer acceptability of tap water from seven of its treatment works. The company

is on track to deliver improvements to taste and odour from three treatment works and water hardness at two treatment works. Planned improvements to water hardness have been deferred at two further treatment works.

3.3 Looking ahead

3.3.1 Carbon accounting

For the first time this year, companies have reported on their greenhouse gas (GHG) emissions. As outlined in our recent '[Climate change policy statement](#)', we see this as an important step in the companies taking ownership and responsibility for their GHG emissions. We expect companies to understand the carbon implications of all their activities and to form mitigation plans that are consistent with their [strategic direction statements](#) and overall obligations to consumers.

It is important that companies accurately measure and monitor their GHG emissions. GHG emissions will influence investment decisions at the 2009 price review. Each company should consider the carbon implications of its future plans by using the shadow price of carbon in its cost-benefit analysis. This process will enable companies to make investment choices that reduce their GHG emissions at the same time as delivering services to consumers.

Companies have reported their GHG emissions voluntarily to Water UK for a number of years. However, we consider it prudent at this stage not to comment on either historical trends or to highlight the performance of individual companies. This is because it is the first time that companies have been required to report GHG emissions to us, and because changes have recently been made to the methods used to calculate GHG emissions.

We believe that the consistency and robustness of data will improve as companies gain further understanding of carbon accounting across both water and sewerage services, and develop sound systems for data collection.

Figure 5 shows total operational GHG emissions values for each company. These values do not include GHG emissions released in the construction of assets or materials. They are presented according to the following definitions.

- The carbon reduction commitment (CRC), which records only GHG emissions from energy use. According to this definition, the total GHG emissions for the water and sewerage sectors is 3.5 million tonnes CO₂e¹.
- Defra guidelines, which record GHG emissions from energy use (including an allowance for green electricity), transport and process GHG emissions. By this definition the total GHG emissions for the water and sewerage sectors is 4.5 million tonnes CO₂e.

Figure 5 shows that, not surprisingly, GHG emissions increase broadly in line with company size. Figure 6 shows GHG emissions (according to Defra guidelines) relative to the total water or sewage treated by each company as reported elsewhere in the June return.

¹ CO₂e is the amount of carbon dioxide emission that would cause the same heating rate, over a given time horizon, as an emitted amount of a greenhouse gas or a mixture of greenhouse gases. The equivalent carbon dioxide emission is obtained by multiplying the emission of greenhouse gas by its global warming potential (the measure of the potency and lifespan of a greenhouse gas relative to carbon dioxide) for the given time horizon. For a mix of greenhouse gases it is obtained by summing the equivalent carbon dioxide emissions of each gas.

Figure 5 Total greenhouse gas emissions by company

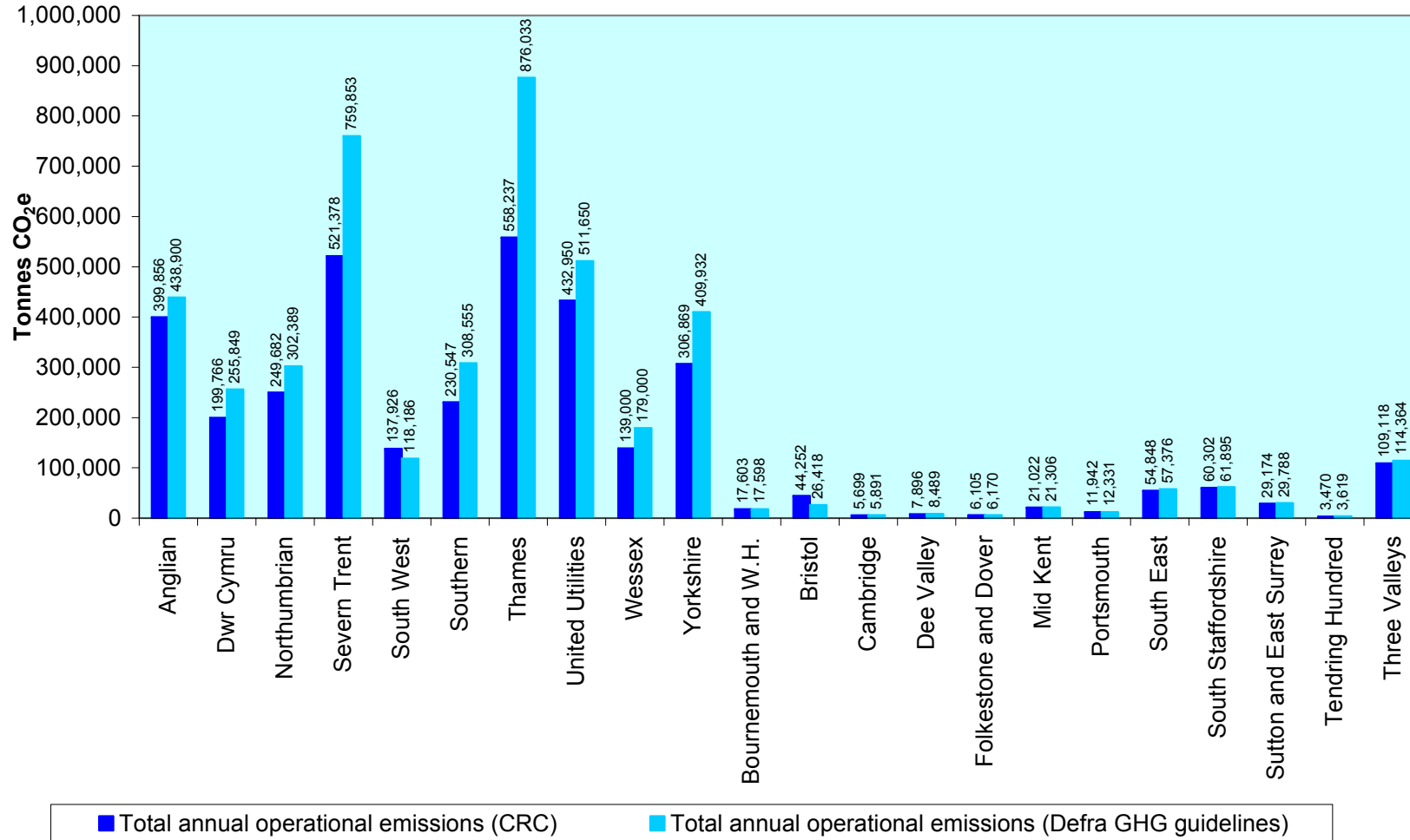
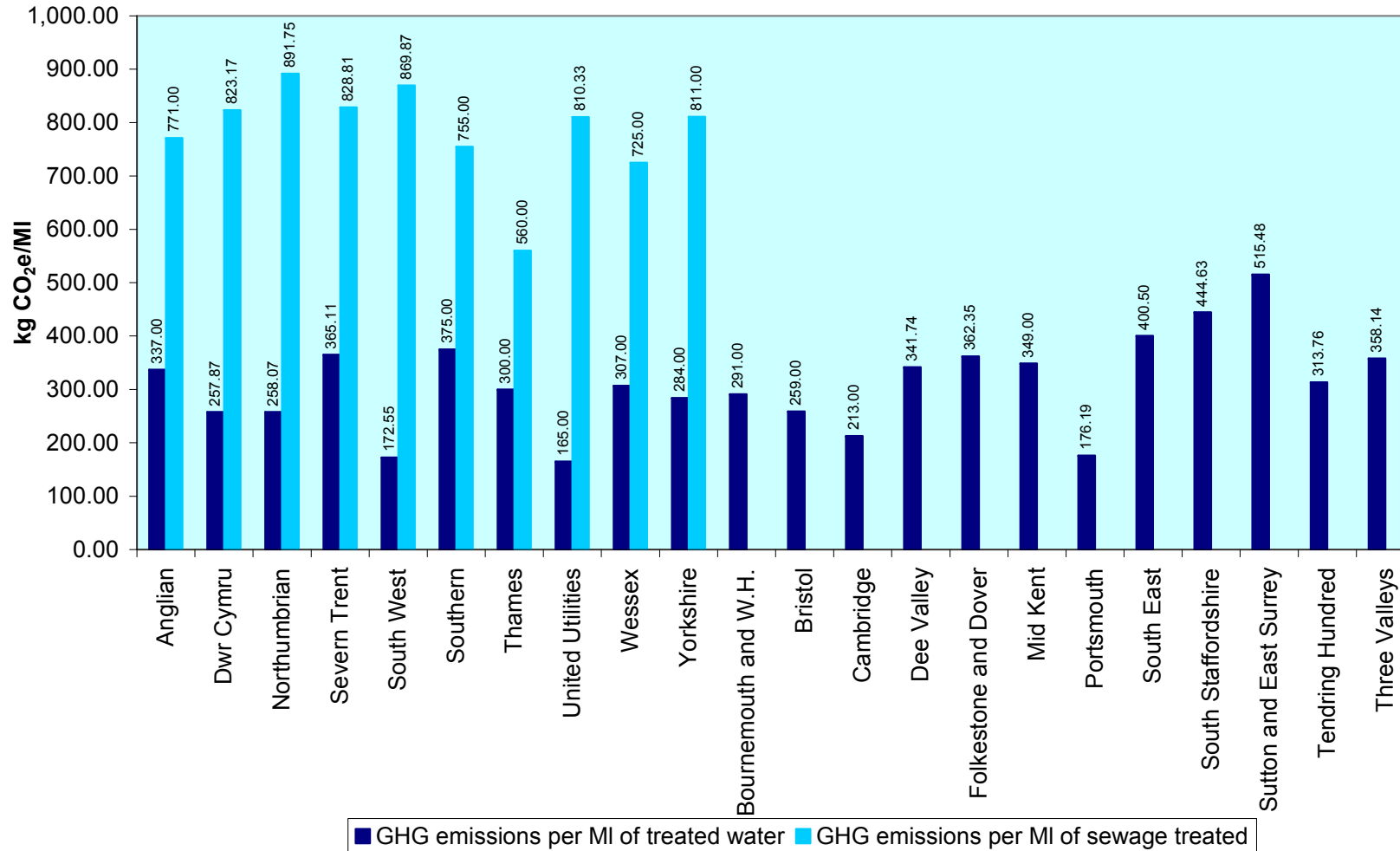


Figure 6 Greenhouse gas emissions relative to water and sewage treated



3.3.2 Water efficiency targets

In August 2007, we proposed voluntary water efficiency targets for each water company for 2008-09 and 2009-10. At that time, we said that we would propose more refined targets at the 2009 price review. Since then, as part of our work for the Water Saving Group (WSG), we have developed an improved methodology with input from all stakeholders.

In June 2008, we published a consultation paper on [setting annual water efficiency targets](#) for each water company from 2010-11 to 2014-15. A key component of our proposed approach was to set a base service target for each company to carry out a level of water efficiency activity that will deliver an assumed saving of one litre for each property every day. If this target had been in place in 2007-08, only three companies would have met it.

The consultation has now closed. We received comments from:

- nine water and sewerage companies;
- eight water only companies;
- six water industry representative bodies;
- two academics;
- two consultants;
- one licensed water supplier; and
- four others.

We will take these comments into account when developing our conclusions which we will publish later in the autumn.

Our initial voluntary targets increased stakeholders' efforts to address the issue of water efficiency. Now that we have developed a better methodology, we will implement the new targets on a trial basis in 2009-10. This will smooth the companies' transition to reporting against the new targets in 2010-11, while continuing to focus all parties' attention on the importance of water efficiency. It will replace the voluntary targets we set out last year.

3.3.3 Leakage review

In July 2006, we launched a review of our approach to setting leakage targets. As a result of this review we decided to work in particular on:

- alternative approaches to setting leakage targets;
- variations in per capita consumption (an important measure in estimating leakage levels);
- how companies should include environmental and social costs and benefits when they calculate the economic level of leakage (ELL), which forms the basis for their leakage targets.

We discussed the outcomes of these projects in [RD02/08, 'Leakage methodology review'](#), and provided an update on our position in [RD16/08, 'Review of leakage target setting'](#). The third project above resulted in guidance that companies must follow, on incorporating environmental and social costs and benefits into their ELL calculations. We think that the revised calculation that each company must produce is better described as a sustainable economic level of leakage (SELL). We will expect companies to base their leakage targets on the SELL in future.

As a result of the '[Alternative approaches to leakage target setting](#)' report we commissioned consultants to carry out work on developing a frontier approach to leakage target setting. Unfortunately, we were unable to develop a workable methodology. However, we are still committed to encouraging companies to drive efficiency in all aspects of their business, including leakage management.

3.3.4 Metering

Since 1 October 2007 all water companies in England that operate in areas of serious water stress have been required to consider the case for compulsory metering in their water resource management plans. If a company proposes compulsory metering, it will still need to demonstrate the costs and benefits of this action. If we approve a company's proposals, it will be able to compulsorily meter consumers from April 2010.

3.3.5 Drinking water quality

In 2007, the Water Supply (Water Quality) Regulations in England and Wales were amended. The amended Regulations introduce new risk assessment requirements for all water supplies from source to tap. Existing provisions for cryptosporidium have been replaced with a general duty to conduct risk assessments of water treatment works and supply systems, and to take appropriate action to deal with any potential danger to human health identified.

The DWI has issued guidance stating that the risk assessments, together with the outputs of raw water monitoring, should inform and draw on the World Health Organisation Water Safety Plan (WSP) methodology that companies have been developing over the last two years. The WSP should identify all potential hazards in the catchment, and in treatment and supply, that could potentially impact on a company's ability to adequately treat, disinfect and supply wholesome drinking water. We will be reviewing companies' business plan proposals to check whether initiatives such as Distribution Operation and Maintenance Strategies (DOMS) and WSPs have been taken into account when identifying and justifying asset maintenance programmes.

4. Delivery – sewerage service

4.1 What consumers experienced

Companies continued to invest in 2007-08 in order to reduce the total number of properties considered to be at risk of internal sewer flooding, and 2,089 properties were removed from the higher risk registers. This is set in the context of the very wet summer of 2007.

The number of properties considered to be at risk of sewer flooding once in every ten years fell from 4,458 in 2006-07 to 3,722 in 2007-08. Those properties that are considered to be at risk of flooding twice or more in ten years increased slightly from 2,800 to 2,822. The data for 2007-08 suggests that around 65 properties in every 100,000 are at risk of flooding at least once in every 20 years (but less than once in every ten years).

Companies are required to assess the numbers of properties that are at risk of internal flooding because of overloaded sewerage systems. They must provide data on the numbers of properties at risk of flooding once in ten years, and twice or more in every ten years.

Dŵr Cymru reviewed the way it assessed the risk of flooding. This resulted in some properties moving between registers.

The table below shows that the risk of flooding by sewage twice or more in ten years is the same as in 2006-07, at 12 in every 100,000 properties. Most companies showed reduced numbers of properties at risk of flooding twice in ten years. Both Northumbrian and Severn Trent showed increases in the number of properties in the at risk of flooding twice in ten years category. South West also shows an increase, but it is only 0.001%. The number of properties at risk of flooding once in ten years has fallen to 16 per 100,000, from 19 per 100,000 in 2006-07.

Table 11 Properties at risk of flooding from sewers – performance analysis 2005-06 to 2007-08

Twice in ten years				Company	Once in ten years			
2005-06	2006-07	2007-08			2005-06	2006-07	2007-08	
%	%	%	Number		%	%	%	Number
0.017	0.014	0.011	279	Anglian	0.010	0.007	0.006	143
0.015	0.010	0.009	120	Dŵr Cymru	0.023	0.021	0.018	245
0.028	0.019	0.027	329	Northumbrian (inc. Essex & Suffolk)	0.019	0.010	0.010	125
0.017	0.024	0.029	1,131	Severn Trent	0.005	0.006	0.006	241
0.004	0.003	0.004	25	South West	0.014	0.013	0.008	52
0.005	0.004	0.004	77	Southern	0.017	0.015	0.009	174
0.012	0.010	0.009	491	Thames	0.055	0.046	0.038	2,139
0.009	0.008	0.006	183	United Utilities	0.011	0.008	0.008	251
0.023	0.017	0.011	126	Wessex	0.031	0.024	0.019	217
0.002	0.003	0.003	61	Yorkshire	0.008	0.007	0.006	135
0.013	0.012	0.012	2,822	Total industry	0.023	0.019	0.016	3,722

Across England and Wales companies have completed schemes to reduce the likelihood of 2,089 properties at high risk of experiencing internal flooding from sewers.

About 7,000 consumers received payment from their company in recognition that their property had been flooded internally by sewage.

Companies also reported a very good year for compliance with discharge consents at sewage treatment works. This year was the best ever regarding the number of discharges compliant with look-up table consents (99.4% compliance), upper tier consents (97.7% compliance) and Urban Waste Water Treatment Directive (UWWTD) consents (97.8% compliance). Thames recorded only a single failure in 2007-08 against the Water Resource Act upper tier failure parameters, a significant improvement on the previous year.

More detailed information can be found in the Environment Agency's MD109 tables that are submitted to us each year. These are available on our [website](#).

Table 12 Environmental impact – company performance 2007-08

Company	Equivalent population served by sewage treatment works			Unsatisfactory combined sewer overflows ¹	Bathing waters non- compliant ³	Successful prosecutions ²
	Resident numerical consents ^{1,a} (millions)	In breach of their WRA consent ^{2,b*} %	In breach of their UWWT consent ^{2,c*} %			
Anglian	6.4	0.00	0.00	1.4	0	1
Dŵr Cymru	3.7	0.19	0.00	7.6	0	8
Northumbrian	4.0	1.23	0.00	14.1	0	3
Severn Trent	9.9	0.00	0.00	1.9	0	5
South West	1.6	0.30	0.00	0.8	0	2
Southern	4.1	0.00	0.00	0.5	0	8
Thames	14.1	0.00	0.00	3.2	0	1
United Utilities	9.1	2.75	0.00	9.4	5	7
Wessex	3.1	0.03	0.00	0.5	0	3
Yorkshire	6.3	0.47	0.00	2.5	0	8
Totals						
2007-08		0.5	0.0	5	0	46
2006-07		1.0	0.3	9	0	74
2005-06		1.4	0.5	11	0.2	56
2004-05		0.1	0.0	13	0.0	77
2003-04		0.2	0.0	18	0.4	53
2002-03		1.2	1.4	25	0.8	94
2001-02		1.2	1.6	26	3	54
2000-01		1.0		29	4	50
1999-00		1.2		24	8	37
1998-99		1		25	10	33
1997-98		1		26	11	32
1996-97		3		27	11	28
1995-96		3		29	11	39

* The data presented in these two columns is a subset of information on consent compliance provided by the Environment Agency.

Sources:

- Companies' June returns 2007.
- The Environment Agency Regions' reports to Ofwat, 2007.
- The Environment Agency report, 'Bathing Water Quality in England and Wales in 2005'.

Notes:

- Equivalent population relates to both the population served and the non-household load on the sewage treatment service.
- Only sewage treatment works failing the Water Resources Act condition of their consent for BOD, SS, or Amm under the requirements of the look-up table (LUT) or the 99% annual dosage rule for UV disinfection have been included. The LUT requires 95% compliance with the limits specified for BOD, SS, or Amm. Reporting is based on a calendar year.
- Only sewage treatment works failing the Urban Waste Water Regulations condition of their consent for BOD under the requirements of the LUT or P under the requirement of an annual average concentration have been included. The LUT requires 95% compliance with the limits specified for BOD. Reporting is based on a calendar year.

4. Bathing water compliance data is for each bathing season, where sampling is carried out from 1 May to 30 September. These figures do not include inland bathing waters. Where it is known that a bathing water non-compliance is in no way attributable to a water company's activities, that non-compliant bathing water is not recorded in the figures.

BOD: biochemical oxygen demand

SS: suspended solids

Amm: ammonia

P: phosphorus

The companies have worked hard in recent years to reduce the number of significant (category one and two) sewage-related pollution incidents from 115 in 2007 to 82 in 2008; a decrease of just under 30%. The percentage of self-reporting of incidents has also increased to an average of 45%, although we are concerned about Dŵr Cymru's lack of self-reporting (at just 6% of all sewage-related incidents).

Companies have continued to improve on the percentage of unsatisfactory intermittent discharges and the proportion of these that are combined sewer overflows. In 2007-08, the sectors reported some 14,226 combined sewer overflows, of which just 5.1% are deemed unsatisfactory. This is a reduction from 8.8% in 2006-07.

As a result of the very wet summer of 2007, compliance with the bathing water standards was down on the previous year. In 2006, three bathing waters failed the mandatory standard; none of these failures were attributed to assets in the water and sewerage sectors. However, 11 bathing waters failed the mandatory standards in 2007. Two of these failures are attributed to spills from sewerage company assets.

Table 13 Environmental impact (pollution incidents by category) – company performance 2007-08

Company	Pollution incidents by category ^{1, a}					
	Sewage related				Water related ^b	
	Category 1	Category 2	Category 3	Self-reporting ^c	Category 1	Category 2
Anglian	1	5	416	71%	0	0
Dŵr Cymru	2	7	260	6%	0	0
Northumbrian	1	10	85	19%	0	3
Severn Trent	3	9	333	50%	0	1
South West	0	5	152	34%	0	1
Southern	1	6	247	58%	0	0
Thames	4	9	162	39%	0	0
United Utilities	0	8	147	34%	0	1
Wessex	0	4	106	64%	0	0
Yorkshire	2	5	126	40%	1	3
Water only companies	–	–	–	–	0	3
Totals						
2007-08	14	68	2,034	45%	1	9
2006-07	15	100	1,980	38%	1	5
2005-06	18	125	1,888	32%	0	4
2004-05	16	109	1,830	–	0	2
2003-04	19	144	2,249	–	1	7
2002-03	8	124	2,011	–	1	6
2001-02	17	129	2,241	–	1	4
2000-01	8	87	2,263	–	1	5
1999-00	13	115	1,968	–		
1998-99	10	135	2,259	–		
1997-98	25	229	2,701	–		
1996-97	23	228	2,560	–		
1995-96	37	374	3,061	–		

Source:

1. The Environment Agency Regions' reports to Ofwat, 2007.

Notes:

- a. Pollution incident categories 1, 2 and 3 are defined on the Environment Agency's website. In broad terms, categories 1, 2 and 3 correspond to major, significant and minor incidents, respectively.
- b. Water-related pollution incidents include those from water companies' water treatment and supply operations.
- c. This is the first year this data has been recorded on this table. Historical industry averages have been provided for comparison.

4.2 How does this compare with companies' commitments?

4.2.1 Managing the assets

The heavy rainfall last year tested sewerage systems across England and Wales. This is because sewers are not designed or expected to carry flows from the most severe rainfall events.

In the sewerage service four companies have one of their sub-services in a less than stable category.

Some risks remain, particularly where a sub-service has been identified as marginal for the first time this year (such as United Utilities for sewerage non-infrastructure). In addition, we remain concerned about the number of pollution incidents from sewers, overflows and rising mains and are pressing companies to make sure they bring this under better control. We are also mindful that recent reductions in burst mains figures have been achieved in relatively mild weather conditions. A period of cold weather may increase bursts and cancel out some of the improvement.

We think that better measurement to improve current knowledge of the sewerage system and more proactive maintenance will help to reduce problems in the future. Reporting on sewer network performance could be made more robust and meaningful, and we are reviewing our approach to this. This year, we have changed the way we highlight the relative performance of each company's sewerage system in our summary table and have combined data on blockages and collapses. Sewer collapses are relatively low compared with burst water mains – about one-tenth, whereas sewer blockages are about three times higher than burst water mains.

Companies carry out various activities to maintain serviceability in the sewerage service. During 2007-08, the companies rehabilitated 206 km of critical sewers (0.2% of the critical sewerage network). Across the companies this rehabilitation rate is broadly in line with the average since 1990-91, as shown in table 8 on page 32.

South West and Thames both increased their rehabilitation rate of critical sewers in 2007-08 so that they can maintain stable serviceability of their infrastructure assets.

Most companies invested more in their non-infrastructure assets than we assumed at the 2004 price review. Last year, sewerage non-infrastructure was the only sub-service to be assessed as marginal at industry level, and this increased investment and activity has restored the industry assessment to stable.

4.2.2 Delivering the sewerage quality programme

We are pleased with the progress the sectors have made in the first three years of the current five-year investment period (AMP4) on delivering the quality programme. On average, the sectors, have completed 96% of all AMP4 funded schemes for the sewerage service. If schemes have been delayed, companies have generally compensated for this by bringing forward plans from later in the investment programme.

Consumers and the environment are benefiting from improvements at sewage treatment works to deliver tighter standards driven by European and domestic legislation. In addition, new screening and storage at combined sewer overflows will limit the frequency and impact of spills of storm sewage during wet weather. First-time sewerage schemes for small communities are alleviating the environmental or amenity impact where previous drainage arrangements were unsatisfactory.

However, some of the delays have led to a significant underspend within the water and sewerage sectors compared with our final determination assumptions at the 2004 price review. These are listed below.

- Southern is still awaiting a decision on its revised planning application to provide a new sewage treatment works for Brighton and Hove under the UWWTD. The revised application followed the Secretary of State's announcement to dismiss the appeal to the planning inquiry in July 2007. Southern is ready to begin construction once permission is granted.
- United Utilities has altered its sludge programme and, as such, will now not be meeting its full outputs for the current five-year investment period. The company incurred delays in trying to obtain the best value for money solutions to construct two new incinerators.
- Across the water and sewerage sectors delays have been attributed to the Environment Agency's Habitats Directive Review of Consents. The high priority sites have now been identified and we expect schemes to be delivered in the remaining two years of the current investment period. However, there have been further delays to the medium and low priority list of sites; as such these schemes may no longer be completed within AMP4.

Where companies do not deliver the required outputs on time, we will seek to recover revenues by making a cost-neutral financial adjustment at the next price review in 2009, so that consumers do not pay for a level of service they have not received. If a specified output is no longer required, we will seek to recover all assumed costs at the next price review.

Ofwat (The Water Services Regulation Authority) is a non-ministerial government department. We are responsible for making sure that the water and sewerage sectors in England and Wales provide customers with a good quality and efficient service at a fair price.



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