

Water and sewerage companies' performance

2015 summary

July 2016

At the end of each year we look back and report on the environmental performance of the 9 water and sewerage companies operating wholly or mainly in England. This report summarises our findings for 2015.

Introduction

The Environment Agency is the government's delivery body charged with environmental regulation of the water industry in England. We work closely with water companies to acknowledge good performance as well as challenge companies to minimise the impact that their assets and activities have on the environment. We also work closely with other regulators of the water industry to ensure an integrated approach and beneficial outcomes.

There are 9 water and sewerage companies that mainly operate in England providing clean (drinking) water and waste water (sewerage) services. There are also 10 water only companies providing only drinking water and 5 other companies who offer such services to a small number of customers in specific locations. This report is just about the 9 water and sewerage companies in England. Throughout this report we use the term 'water companies' to describe them.

Water companies provide an essential public service that underpins the social and economic health of the nation. However individually and collectively they affect the ecological health of rivers as well as how water can be used downstream by others.

By far the greatest potential environmental impact from the water companies' activities is on the water environment. Water companies have abstraction licences which allow them to take water from the environment, discharge permits which allow them to put treated waste water back into the environment, and permits or other regulatory controls which allow them to dispose of or recycle sludge or other waste. They also have duties to manage their impact on flood risk.

Abstractions reduce river flows and groundwater levels, whilst discharges affect river water quality because they contain metals and other harmful substances, as well as normal sanitary components. The licences and permits we issue control the level of impact water companies are allowed to have on the environment. It is vital that they meet the conditions we set in their licences and permits and deliver their legal obligations.

Our regulation of water companies

Each year we inspect water companies' sites, check sample data and respond to pollution incidents from their assets. We also work with the companies throughout the year to help improve their performance in a variety of ways, from auditing their monitoring data to working collaboratively with them on catchment management. Our role is both to regulate water companies, which we do firmly and fairly, and to work in partnership with them on areas of mutual interest.

Environmental Performance Assessment

In 2011 we introduced the Environmental Performance Assessment (EPA) as a tool for comparing performance between water companies and across years. In it we use 6 indicators which provide a meaningful and comparable overview of performance across the 9 water companies.

These indicators measure performance associated with:

- reducing pollution incidents and increasing company reporting of incidents
- complying with discharge permits
- managing the use and disposal of sewage sludge
- delivering environmental improvement schemes

The EPA indicators and their associated metrics were set for the duration of the Asset Management Period (AMP) which ran from April 2010 to March 2015, and are absolute rather than relative. All companies should therefore be able to achieve good performance against these indicators by 2015.

The EPA forms part of a wider assessment of performance, including current year-to-date data that we consider during annual performance meetings with the companies. This report summarises our findings for 2015 against the backdrop of the previous 4 years for the EPA and longer term trends.

Following consultation with the water companies and other stakeholders, in future we will use revised thresholds and definitions for the EPA, as well as some new indicators covering water resources and flooding. This will apply to reporting 2016 data and future reporting up to 2021.

Performance expectations

In 2013 we wrote to all companies setting out our expectations on a number of areas including operational performance. We give the full list of expectations at the end of this report. Those that are directly relevant to the EPA are to:

- reduce category 1 and 2 (the most serious) pollution incidents, trending towards zero by 2020
- trend to minimise all pollution incidents (category 1 to 3) by 2020 with at least a third reduction compared to 2012 figures
- achieve high levels of self-reporting of pollution incidents with at least 75% of incidents self-reported by 2020
- ensure a plan is in place to achieve 100% compliance for all licences and permits
- manage sewage sludge treatment and re-use in a way that does not cause pollution and follows the Sludge (Use in Agriculture) Regulations and the Code of Practice for Managing Sewage Sludge, Slurry and Silage or Environmental Permitting Regulations (EPR)
- plan environmental improvement schemes (e.g. Asset Management Plan, Water Resource Management Plans) well and deliver them as planned

In developing their business plans for the period 2015 to 2020 the majority of the water companies have translated these expectations into Performance Commitments and associated Outcome Delivery Incentives. See Ofwat website for Price Review 2014 (www.ofwat.gov.uk/pricereview/pr14/). We will monitor company performance closely and press companies to meet statutory obligations.

Pollution incident performance

We work with water companies to minimise the damage that pollution incidents cause. Pollution incidents are usually caused by loss of control. They lead to the release of harmful substances into air, land or water, some can cause significant harm to the environment. We categorise all incidents based on their impact. A category 1 incident has a serious, extensive or persistent impact on the environment, people or property and may for example result in a large number of fish deaths. Category 2 incidents have a lesser yet significant impact and category 3 incidents have a minor or minimal impact on the environment, people and/or property with only a limited or localised effect on water quality.

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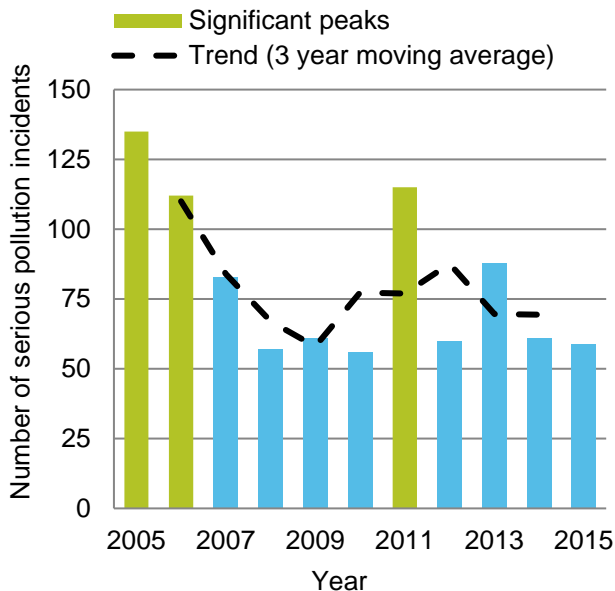
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Serious pollution incidents

The last 2 years (2014 and 2015) have seen a welcome improvement following the disappointing performance in 2013 when the sector was the cause of 88 serious pollution incidents. In 2015, the number of serious pollution incidents (categories 1 and 2) decreased slightly to 59, compared to 61 in 2014. Fifty-nine serious incidents is similar to levels seen in 2008 to 2010 and our expectation is for further reductions.

Numbers of serious pollution incidents and trend for the 9 water companies for the period 2005 to 2015



The lowest ever number of serious pollution incidents was again recorded for 2015 – there were 4 category 1 incidents caused by the sector. This matches the previous year’s record. Only 3 of these 4 serious incidents in 2015 were associated with sewerage which is a record low.

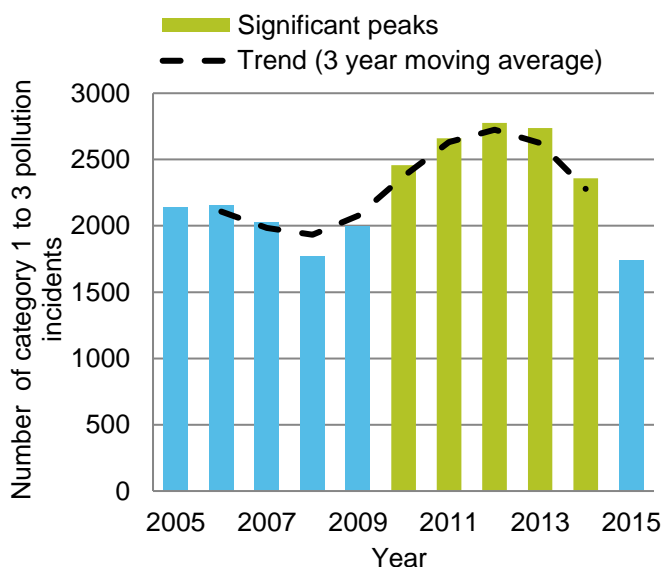
Between 2005 and 2010 the numbers of serious incidents across the sector fell markedly. In 2011 we saw a sharp rise which appeared to be brought back under control in 2012. However numbers increased again for most companies in the sector in 2013 to 88, an almost 50% increase compared to 2012. The rise in 2013 marked the continuation of an increasing trend since 2010. This was a move away from our expectation of a trend toward zero by 2020.

Following the increase in serious incidents in 2013 we requested each company to produce an action plan to understand the increase and reverse the rise.

There was no common root cause identified for the increase in 2013, with causes varying between companies. Key factors which contributed were inadequate monitoring and management and shortcomings in risk assessment, operational practice and staff culture.

Companies' action plans include projects to assess the risk each asset poses to the environment enabling prioritisation of maintenance and upgrades. Some companies are training their staff and facilitating more predictive and proactive approaches to identifying potential problems early and achieving solutions. This includes transparent reporting and mitigation of potential incidents to ensure action is taken before an incident occurs. It also includes empowering staff to find solutions and making sure any lessons learnt are implemented right across the company. We continue to press companies to have sufficiently ambitious, effective plans in place and achieve timely results.

Numbers of category 1 to 3 pollution incidents and trend for the 9 water companies for the period 2005 to 2015



Total pollution incidents

Incidents in 2015 were back to the lowest levels achieved in 2008. In 2015, with 1,742 incidents (category 1, 2 and 3), we saw a large reduction from 2,358 in 2014 and continuation of the reducing trend since 2012. The total number of water quality pollution incidents from sewerage and water service assets (categories 1, 2 and 3) rose steadily between 2008 and 2012. Some of this is due to better reporting by the companies.

Within the overall large reduction, performance varied between companies. We are interested to understand how some companies achieved large reductions, whilst others increased. We want to see further reductions in incidents and encourage the industry to share best practice.

Self-reporting of incidents

Without a rapid response, some relatively minor events can escalate and the opportunity for mitigation measures lost. This is why we seek high levels of self-reporting of incidents – where water companies tell us about their incidents before a member of the public or third party does.

Pleasingly, in 2015, we saw the highest ever level of self-reporting of pollution incidents by the sector at 69%, up from 66% in 2014. The range for individual companies is variable from 82% down to just 48%, with some companies reducing self-reporting. We have told all companies that we expect their self-reporting to reach 75% by 2020.

Compliance with licences and permits

All water companies have licences and permits which control the level of impact they are allowed to have on the environment. These vary in complexity depending on the activities concerned and the nature of the environment they affect. We set these conditions carefully and expect companies to be fully compliant with them.

There has been a general improvement in water discharge compliance since 2006. Compliance with numeric waste water discharge permits was 98.7% in 2015, due to 46 out of 3,492 sewage treatment works failing to comply with their numeric permit conditions. This was a deterioration compared to 2014, when only 40 sewage treatment works had failures and resulted in the highest ever numeric permit compliance by the sector at 98.9%.

Six companies achieved the same or better compliance with numeric discharge permits in 2015 compared with 2014. This is a reduction from 8 in 2014.

The companies achieved 99.0% compliance with abstraction and impoundment licences in 2015. There were 21 reported non-compliances, which was higher than the 10 recorded for 2014. Of these 21 non-compliances, 14 had little or no environmental impact, resulting in us giving advice and guidance to the licence-holders. Seven of the non-compliances resulted in more significant environmental impacts or risks and we have responded to these with written warnings.

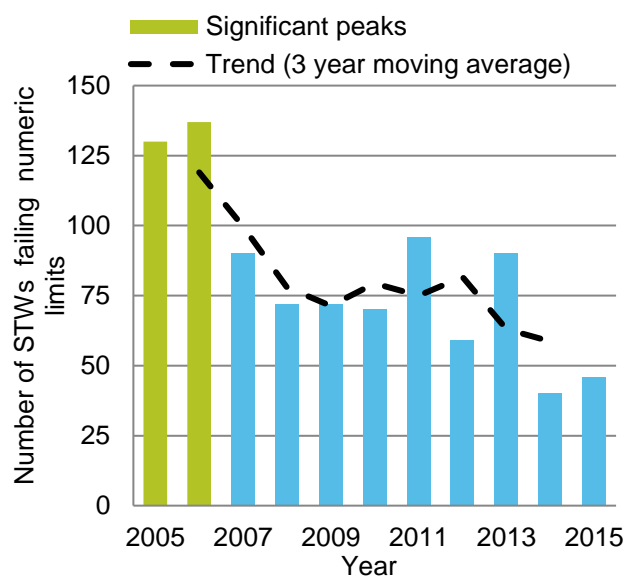
Water companies also have permits for waste activities. The majority of these waste activities are for biowaste – mostly managing and treating sewage sludge. Only 2 of the 156 water company biowaste sites gave us cause for concern during the year. One was a site with an OPRA (Operational Risk Appraisal) compliance band of D (we consider operators in compliance bands D, E and F as poor performers). The other was a single serious (category 1-2) pollution incident.

Sludge disposal and use

All water companies produce sludge as part of their sewage treatment processes. This sludge needs to be disposed of and can often be put to good use – for example as a fertiliser for agricultural land. Its storage and spreading requires careful control as misuse can result in environmental damage so we work with water companies to ensure they – and their contractors – understand the rules and regulations around sludge.

For 2015, one company self-reported 99.98% compliance against satisfactory sludge disposal criteria, whilst all others self-reported full compliance. This is a slight deterioration on the previous year when all companies reported complete compliance. Companies determine their own definitions of satisfactory sludge disposal; as a minimum, we expect companies to adhere to the Safe Sludge Matrix and comply with any legal obligations. A revised definition of the metric for Satisfactory Sludge Disposal and Use has been agreed for use in the revised EPA for reporting 2016 data and up to 2020.

Number of sewage treatment works failing numeric limits and trend for the 9 water companies for the period 2005 to 2015



Progress with environmental improvement schemes

For the year April 2015 to March 2016, all companies have reported 100% delivery of their planned work on water quality improvement schemes.

In 2014 Ofwat, the economic regulator for the water industry, set the prices that water companies could charge their customers between 2015 and 2020. As part of that price review we developed a programme of environmental improvements, the National Environment Programme (NEP), which water companies needed to make over that period to ensure that they meet legal environmental standards related to water. The NEP includes schemes, investigations and monitoring to improve and protect both water quality and water resources. The current EPA just reports on water quality schemes.

The EPA is changing for reporting on progress between April 2016 and March 2017 and beyond, to include schemes associated with water resources and fisheries, biodiversity and geomorphology within companies' Asset Management Programmes (AMP).

Overall environmental performance

In 2011, when we introduced the EPA and set the class boundaries for the remainder of the AMP period to 2015, our aim was to provide companies with a pathway to high performance. Our ambition is that no company will have poor performance status (i.e. performance significantly below target) for any indicator by the end of the AMP period and that all have a goal of reaching 'industry leading' status. New thresholds will apply for 2016 performance to be reported in 2017.

The EPA for 2015 is presented in Table 1. The EPA results for 2011, 2012, 2013 and 2014 are shown in Annex 1.

Companies achieved improved performance for 2014 compared to previous years, with only 3 poor performing components across the sector and this was matched in 2015. In 2011 the 9 water companies between them had poor performance for 9 components of the EPA. In 2012 this had dropped to 5 but rose again to 7 in 2013. In 2015, only one company accounted for all the 3 poor performing components and this company has deteriorated from a below average rating in 2014 to poor in 2015. Pleasingly, all other companies rated at least above average in 2015. We are pleased to see that in 2015 for the first time, more than one company, 3 in total, achieved industry leading status.

Flood and coastal risk management

This year we are extending this report to include a narrative on flooding matters and performance by the water sector. This narrative draws on information water and sewerage companies provide to us which we report to ministers annually in the 'Managing flood and coastal erosion risks in England' report. This is a requirement of section 18 of the 2010 Flood and Water Management Act (FWMA).

Between April 2015 and March 2016, water and sewerage companies invested £102 million on reducing the risk of sewer flooding to properties. Companies have also invested a further £53 million in maintaining the public sewer system to prevent blockages and flooding. In addition to major schemes, companies have invested a further £12 million in property-level protection and mitigation measures to reduce the likelihood of customers' homes experiencing sewer flooding.

Under the FWMA, water and sewerage companies are risk management authorities (RMAs). This means they have to act in a manner consistent with the National Flood and Coastal Erosion Risk Management (FCERM) Strategy for England and have a duty to cooperate with other RMAs. Water companies have worked with others this year to:

- support lead local flood authorities on their local strategies and flood investigations
- share data to support flood risk assessments of multiple sources of flooding
- develop their drainage strategies to inform future investment
- identify and deliver sustainable and innovative solutions to reduce flood risk and enhance the environment
- collaborate on joint research initiatives to improve flood management practices

Water and sewerage companies were affected by severe weather in the winter of 2015/16; in particular Yorkshire Water, United Utilities and Northumbrian Water. The water industry incurred extra costs during the winter floods associated with damage to property and capacity for sewerage treatment. Their estimate of direct financial costs is in the region of £100 million. The sectors' planned operational mitigation measures and asset recovery plans helped ensure essential water and waste water services were maintained.

The relationship with the companies in their risk management role is working well and continues to develop. Over the next year the focus will be on the improved sharing of data to help facilitate better outcomes across the whole risk management authority community.

For flood risk management, we are working with Water UK and Ofwat in developing a potential flood metric for inclusion in the EPA. We will consult with the water sector in the autumn and introduce it in April 2017 as a shadow assessment. We anticipate such a metric forming a full part of the EPA from 2018.

Key performance messages for the sector

This is the first year (since the EPA was introduced in 2011) 3 companies have achieved 'industry leading' status, plus 5 other companies are rated above average. Leading companies are Severn Trent Water, United Utilities and Wessex Water. One company, South West Water, is rated as poor performing and has deteriorated from a below average rating in 2014.

This year's EPA has shown some welcome improvements when compared to previous years (see Annex 1). In particular the sector has achieved:

- a large reduction in the total pollution incidents (category 1 to 3) for 2015 (1,742, compared to 2,358 in 2014), similar to the lowest levels achieved in 2008
- a record low of 4 category 1 serious pollution incidents in 2014 was again achieved in 2015. Only 3 category 1 serious pollution incidents were associated with sewerage, which is another record low
- a further small reduction in the number of serious pollution incidents to 59 compared to 61 in 2014 and 88 in 2013
- the highest ever level of self-reporting of pollution incidents at 69%, up from 66% in 2014
- permit numeric compliance continues an overall trend for improvement since 2006, at 98.7%

Conclusions and forward look

The water companies provide an essential service to society. The activities water companies undertake through their day-to-day responsibilities of providing clean drinking water and treating waste water have the potential to have a significant adverse impact on the environment. The Environment Agency issues and enforces permits and licences which aim to limit the impact of these activities.

Water companies have made welcome improvements and thankfully, the industry no longer has the level of adverse impact on the environment that it had in the past. It recognises there is further work to do to meet the requirements of legislation and public expectation. We will be working with all companies throughout the year and continuing to encourage good performance and to satisfy ourselves that their plans to improve performance are working sufficiently quickly and that environmental protection remains a high priority for them.

Table 1: Water and sewerage companies – Environmental Performance Assessment (EPA) 2015

Units	Indicators						Overall performance rating
	Pollution incidents (sewerage)	Serious pollution incidents (sewerage)	Discharge permit compliance	Satisfactory sludge disposal	Self reporting of pollution incidents	AMP National Environment Programme Delivery	
	Category 1-3 incidents per 10,000 km of sewer	Category 1-2 incidents per 10,000 km of sewer	%	%	%	% of planned delivered	
Red, amber, green, thresholds	≥130 red >50 amber ≤50 green	≥ 4 red >1.5 amber ≤1.5 green	≥ 99 green <99 amber ≤96 red	≤98 red >98 amber 100 green	≤37 red <68 amber ≥68 green	≤96 red >96 amber ≥99 green	
Water Company							* star rating
Anglian Water (ANH)	35 ↑↑	2.3 ↓	99.0 ↑↑	100 ↔	56 ↓↓	100 ↔	*** Permit compliance and total pollution incidents have improved, but self reporting has deteriorated.
Northumbrian Water (NES)	97 ↓	3.1 ↓	99.4 ↔	100 ↔	82 ↑↑	100 ↔	*** Pollution incident performance has deteriorated. Self reporting has improved.
Severn Trent Water (SVT)	47 ↑↑	0.2 ↑↑	99.0 ↓	100 ↔	77 ↑	100 ↔	**** Performance is commendable and performance on pollution incidents has improved.
Southern Water (SRN)	75 ↑↑	3.2 ↑↑	99.3 ↑	100 ↔	59 ↓↓	100 ↔	*** Pollution incident performance has improved but self reporting has deteriorated.
South West Water (SWT)	171 ↓	7.6 ↓↓	95.8 ↓↓	99.98 ↓	48 ↑	100 ↔	* Pollution incident and permit compliance performance requires improvement.
Thames Water (TMS)	38 ↑↑	1.8 ↑	99.1 ↑↑	100 ↔	61 ↑	100 ↔	*** Performance for total pollution incidents and permit compliance has improved.
United Utilities (UU)	40 ↑	1.2 ↓	97.2 ↓	100 ↔	81 ↑	100 ↑↑	**** Performance is commendable and AMP/NEP performance has improved.
Wessex Water (WSX)	48 ↓	1.7 ↔	99.7 ↔	100 ↔	72 ↑↑	100 ↔	**** Performance is commendable and self reporting has improved.
Yorkshire Water (YKY)	72 ↓	1.6 ↓↓	99.3 ↔	100 ↔	76 ↓	100 ↔	*** Pollution incident performance has deteriorated.
Sector	53 ↑	1.8 ↑	98.7 ↓	99.99 ↓	69 ↑↑	100 ↔	

Key - Status for performance

█	Performance better than target
█	Performance close to or slightly below the target
█	Performance significantly below target

Key - Performance comparison to last year

↑	Improving within class	↓	Deteriorating within class
↑↑	Improved a class	↓↓	Deteriorated a class
↑↑↑	Improved by 2 classes, eg from red to green	↓↓↓	Deteriorated 2 classes, eg from green to red
↔	About the same		

Key - Overall rating

****	Industry leading company
***	Above average company
**	Below average company
*	Poor performing company

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Annex 1: History of EPA results

Water and sewerage companies – Environmental Performance Assessment (EPA) 2014

	Pollution incidents (sewerage)	Serious pollution incidents (sewerage)	Discharge permit compliance	Satisfactory sludge disposal	Self-reporting of pollution incidents	AMP National Environment Programme delivery	Overall performance rating
Anglian Water	Yellow	Yellow	Yellow	Green	Green	Green	***
Northumbrian Water	Yellow	Yellow	Green	Green	Yellow	Green	***
Severn Trent Water	Yellow	Yellow	Green	Green	Green	Green	***
Southern Water	Red	Red	Green	Green	Green	Green	**
South West Water	Red	Yellow	Yellow	Green	Yellow	Green	**
Thames Water	Yellow	Yellow	Yellow	Green	Yellow	Green	***
United Utilities	Green	Green	Yellow	Green	Green	Yellow	***
Wessex Water	Green	Yellow	Green	Green	Yellow	Green	***
Yorkshire Water	Yellow	Green	Green	Green	Green	Green	****

Water and sewerage companies – Environmental Performance Assessment (EPA) 2013

Anglian Water	Yellow	Yellow	Yellow	Green	Green	Green	***
Northumbrian Water	Yellow	Yellow	Yellow	Green	Yellow	Green	***
Severn Trent Water	Yellow	Green	Green	Green	Green	Green	****
Southern Water	Red	Red	Red	Green	Green	Green	*
South West Water	Red	Red	Red	Green	Yellow	Green	*
Thames Water	Yellow	Yellow	Red	Green	Yellow	Green	**
United Utilities	Green	Green	Yellow	Green	Green	Green	***
Wessex Water	Green	Yellow	Green	Green	Yellow	Green	***
Yorkshire Water	Yellow	Yellow	Yellow	Green	Green	Green	***

Water and sewerage companies – Environmental Performance Assessment (EPA) 2012

Anglian Water	Yellow	Green	Yellow	Green	Green	Green	***
Northumbrian Water	Yellow	Yellow	Green	Green	Green	Green	***
Severn Trent Water	Yellow	Yellow	Green	Yellow	Yellow	Green	***
Southern Water	Red	Red	Yellow	Green	Green	Green	**
South West Water	Red	Red	Yellow	Green	Yellow	Green	**
Thames Water	Yellow	Yellow	Green	Green	Yellow	Yellow	***
United Utilities	Yellow	Green	Green	Green	Green	Green	***
Wessex Water	Green	Green	Green	Green	Yellow	Green	****
Yorkshire Water	Yellow	Yellow	Red	Yellow	Green	Green	**

Water and sewerage companies – Environmental Performance Assessment (EPA) 2011

Anglian Water	Yellow	Yellow	Yellow	Green	Yellow	Green	***
Northumbrian Water	Yellow	Red	Green	Green	Red	Green	**
Severn Trent Water	Yellow	Yellow	Yellow	Yellow	Yellow	Green	***
Southern Water	Red	Red	Yellow	Green	Green	Green	**
South West Water	Red	Red	Red	Green	Red	Green	*
Thames Water	Green	Yellow	Green	Green	Yellow	Green	***
United Utilities	Yellow	Green	Yellow	Yellow	Green	Green	***
Wessex Water	Green	Green	Green	Green	Yellow	Green	****
Yorkshire Water	Yellow	Red	Yellow	Green	Green	Green	**

Annex 2: Expectations for operational performance

In 2013, following Ofwat's publication of its final methodology for developing business plans, we wrote to all water companies setting out our expectations on a range of areas. This annex repeats the expectations around operational performance.

Protecting the environment

1. A plan in place to achieve 100% compliance for all licences and permits.
2. Look up table permits for water quality discharges should be 100% compliant.
3. Compliance with flow requirements, including MCERTS certification, at Waste Water Treatment Works.
4. Reducing serious (category 1 and 2) pollution incidents, trending towards zero by 2020. There should be at least a 50% reduction compared to numbers of serious incidents recorded in 2012.
5. Trend to minimise all pollution incidents (category 1 to 3) by 2020. There should be at least a third reduction compared to numbers of incidents recorded in 2012.
6. Restored sustainable abstractions outcomes are achieved.
7. Management of sewage sludge treatment and re-use should not cause pollution and must follow the Sludge (Use in Agriculture) Regulations and the Code of Practice for Managing Sewage Sludge, Slurry and Silage or Environmental Permitting Regulations (EPR).
8. High levels of self-reporting of pollution incidents. At least 75% of incidents self-reported by 2020.
9. Environmental improvement schemes (eg Asset Management Plan, Water Resource Management Plans) are planned well and delivered as planned.
10. Effective management of transferred private sewers and pumping stations with low levels of pollution incidents.
11. No D, E, or F rated sites under OPRA for waste related sewerage service Environmental Permitting Regulations permits.
12. Sample and provide data in relation to self monitoring under Operator Self Monitoring (OSM) and Urban Waste Water Treatment Directive (UWWTD).
13. Act in a manner consistent with the National Flood and Coastal Erosion Risk (FCERM) Strategy for England, when carrying out FCERM functions.
14. By 2020, the vast majority of storm discharges should have event duration monitoring. The discharges that require monitoring will be determined by a risk based methodology that is currently being developed. The required monitoring will be proportionate depending on the sensitivity of the receiving water and frequency of operation.

Sustainable management of drainage and surface water

15. Mapping of assets and application of the Drainage Strategy Framework (priority catchments by 2020) combined with comprehensive, monitoring, and management of key assets by 2020.
16. A comprehensive maintenance programme for networks and sewage treatment works.
17. A targeted programme of capital maintenance.
18. Reduced sewer flooding of properties, trending to zero.
19. Work in partnership with lead local flood authorities to deliver value for money sustainable solutions that reduce flood risk.

Security of supply

20. Delivery of Water Resources Management plans (WRMPs).
21. Achieve security of supply outcomes as defined in WRMPs.
22. Achieve at least the sustainable economic level of leakage.
23. Universal metering in water stressed areas where your WRMP appraisal supports that.
24. All outstanding actions on drought plans are resolved and completed.