

Environmental performance of the water and sewerage companies in 2013

LIT 9993

August 2014

Introduction

The Environment Agency is the Government's delivery body charged with environmental regulation of the water industry in England. We work closely with – and challenge - water 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 a joined-up approach.

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

All these 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 or recycle sludge or other waste. They also have duties to manage their impact on flood risk.

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

By far the greatest environmental impact from the water companies' activities is on the water environment. 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 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.

At the end of each year we look back and report on the water companies' environmental performance. This report summarizes our findings for 2013 against the backdrop of the previous two years. If performance is deteriorating through the year we do not wait until the end of the year to address it on an individual basis, but this annual review gives an opportunity to compare all nine water companies.

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 six environmental indicators which provide a meaningful and comparable overview of performance across the nine water companies. The indicators and their associated metrics are set for the duration of the current asset management period (AMP) 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.

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 but summarise below those that are directly relevant to the EPA.

- A plan in place to achieve 100 per cent compliance for all licences and permits.
- Reducing category one and two pollution incidents, trending towards zero by 2020.
- Trend to minimise all pollution incidents (category one to three) by 2020 with at least a third reduction compared to 2012 figures.
- High levels of self-reporting of pollution incidents with at least 75 per cent of incidents self-reported by 2020.
- 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).
- Environmental improvement schemes (e.g. Asset Management Plan, Water Resource Management Plans) are planned well and delivered as planned.

Performance in 2013

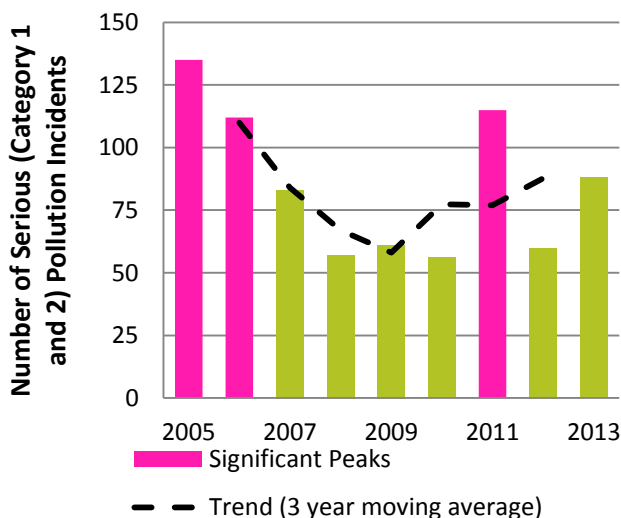
Incident performance

Pollution incidents are usually caused by loss of control. They lead to the release of harmful substances into air, land or water and can cause significant harm to the environment. We categorise such incidents based on their impact.

A category one 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 two incidents have a lesser impact and category three incidents have a minor or minimal impact or effect on the environment, people

and/or property with only a limited or localized effect on water quality. We work with water companies to minimize the damage that pollution incidents cause. However we expect them to aim for prevention rather than correction.

Generally, 2013 performance on water quality incidents was disappointing. Between 2005 and 2010 the numbers of serious (category one or two) incidents across all nine water companies taken together fell markedly. 2011 saw a sharp rise which appeared to be brought back under control in 2012. However numbers have risen again for most companies in 2013 so the total for all nine water companies is almost 50 per cent greater than the previous year. This is moving away from our expectation of a trend toward zero by 2020. We



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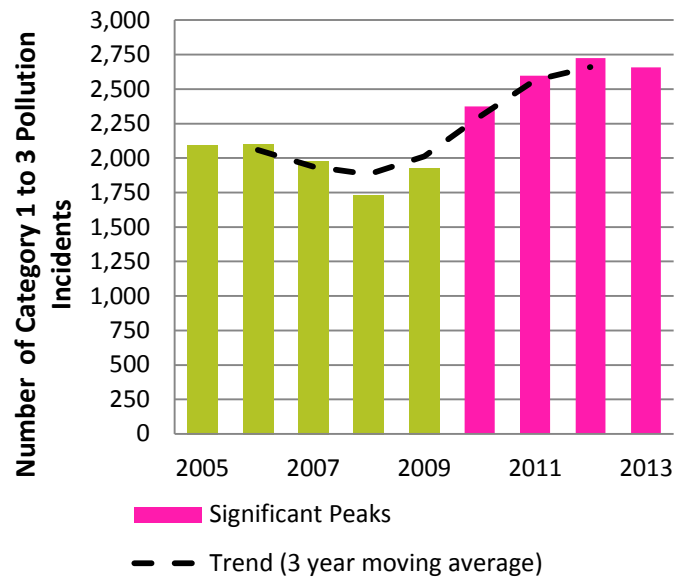
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have asked companies to reassure us that they have plans to bring this back under control and we will be tracking progress against this during 2014.

The total number of water quality incidents (categories one, two and three) rose steadily between 2008 and 2012. Some of this is due to better reporting by the companies. Numbers for 2013 have reduced slightly compared to 2012 although there is some individual company variation. We want to see a further reduction in incidents from all companies in 2014.

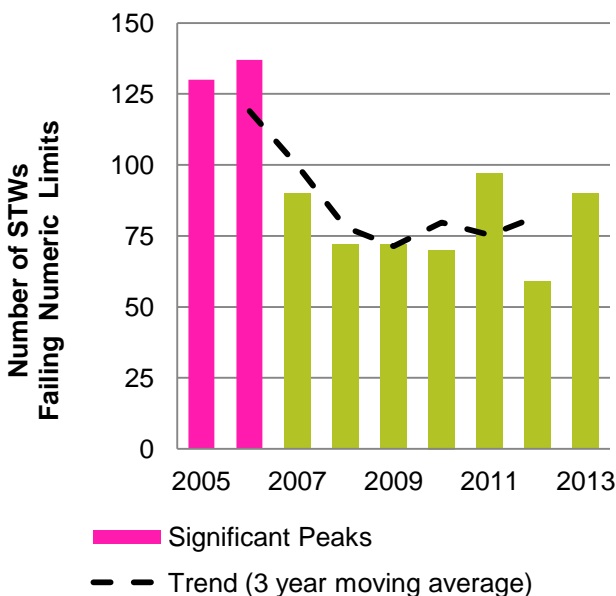
Without a rapid response, relatively minor events can escalate and the opportunity for mitigation measures is often lost. This is why we seek high levels of self-reporting of incidents, where water companies tell us about their incidents before a member of the public or third party does. Self-reporting remains steady at 66 per cent across all water companies. The range for individual companies is variable (39 to 80 per cent) and we have told all companies that we expect their self-reporting to reach 75 per cent by 2020. Clearly some have more to do than others to achieve this.

The EPA shows individual water companies' performance against three pollution incident indicators: all incidents, serious incidents and self-reporting. Of greatest concern to us are serious incidents where the majority of companies (six out of nine) saw a drop in performance.



Compliance with licences and permits

As explained in the introduction to this report, 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 100 per cent compliant with them.

Compliance with numeric waste water discharge permits was 97.4 per cent in 2013. This means that around 90 sewage treatment works failed to comply with their permit conditions. Companies will need to work hard to improve this performance if they are to meet our expectations.

Only two companies achieved better compliance with discharge permits in 2013 compared with 2012. Whilst the drop in compliance for the other seven was for a variety of reasons we expect all companies to improve their performance in 2014.

Compliance with other licences and permits in 2013 was generally high. Only two companies had any breaches of abstraction licences and only two out of 144 water company biowaste sites gave us cause for concern during the year.

Sludge disposal

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 fertilizer for agricultural land. However its

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storage and spreading requires careful control as misuse can result in environmental damage. We work with water companies to ensure they – and their contractors – understand the rules and regulations around sludge.

Sludge cannot be spread on saturated ground. In 2013 and early 2014 a number of companies had problems with their capacity to store sludge because of the extended wet winter. We expect companies to have contingency plans for such periods. We will be looking for improvements in these plans from companies which experienced difficulties last winter.

The EPA shows individual company's self-reported performance against satisfactory sludge disposal. Performance continues to be high across all nine companies with the majority meeting our stated expectations.

Progress with environmental improvement schemes

In 2009 Ofwat, the economic regulator for the water industry, set the prices that water companies could charge their customers between 2010 and 2015. As part of that price review we developed a programme of environmental improvements (the National Environment Programme or NEP) that water companies needed to make over that period to ensure that water companies meet European and national environmental standards related to water. Here we report on the progress companies have made against their plans up to the end of March 2014.

On water quality schemes all water companies have delivered the number of NEP schemes they planned to deliver by this point; on bathing water schemes a number have been subject to agreed delays and work is on track to meet the revised timetables. We are pleased to see our expectations being met in this area. On water resources there are a number of delayed schemes some of which are giving us cause for concern.

The EPA just reports on water quality schemes and so reflects the good progress in this area.

The Environmental Performance Assessment

In 2011 when we introduced the EPA and set the class boundaries for the remainder of the AMP period, our aim was to provide companies with a pathway to high performance. Our ambition is that no companies will have poor performance status for any indicator by the time the current AMP period ends in 2015 and that all have a goal of reaching 'industry leading' status.

The EPA for 2013 reflects the disappointing performance we have seen on serious and significant incidents and the slight fall in discharge permit compliance. In 2011 the nine water companies between them had poor performance for nine components of the EPA. In 2012 this had dropped to five but rose again to seven in 2013. This rise is disappointing.

Overall the sector's performance has dropped compared to 2012 on two of the six indicators – serious pollution incidents and compliance with discharge permits. Performance on these remains average. For self-reporting of incidents and NEP delivery performance remains static but of these only NEP delivery shows good performance; self-reporting of incidents is average.

There are however areas of improvement. Performance on both total pollution incidents performance and satisfactory sludge disposal has improved within the average category.

Conclusions and forward look to 2014

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 through regulation.

The industry no longer has the adverse impact on the environment that it had in the past and we welcome this. Water companies have made improvements in compliance with their licences and permits, in bringing

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leakage under control and in improving their customers' security of supply. However as pressures on our environment and societal expectations increase and technology improves, companies' performance comes under more scrutiny. And that scrutiny is beginning to show cause for concern. We need to be reassured this is not an indication that the environment is slipping down some companies' priority lists.

Some companies do deserve acknowledgement for their performance but we have specific concerns about others and will be working with them throughout the year to satisfy ourselves that their plans to improve performance are working and at an acceptable rate.

If companies are to achieve the aims we set out when we introduced the EPA then we will need to see considerable improvement in 2014 performance.

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

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	* indicative star rating
Anglian Water	89 ↑	2.3 ↓↓	97.5 ↓	100 ↔	76 ↑	100 ↓	*** Poorer performance on significant incidents and permit compliance.
Northumbrian Water	79 ↑	3.1 ↓	98.1 ↓↓	100 ↔	39 ↓↓	100 ↔	*** Incident self reporting and permit compliance needs to improve
Severn Trent Water	79 ↓	1.3 ↑↑	99.3 ↑	100 ↑	69 ↑↑	121 ↑	**** Achieved 'leading company' status
Southern Water	148 ↑	4.2 ↑	96.0 ↓↓	100 ↔	77 ↓	100 ↓	* Incidents performance and permit compliance need to improve
South West Water	267 ↓	10.8 ↓	92.5 ↓↓	100 ↔	55 ↑	101 ↔	* Incidents performance and permit compliance need to improve
Thames Water	90 ↓	3.2 ↓	95.7 ↓↓↓	100 ↔	58 ↑	102 ↑↑	** Poorer performance on incidents and permit compliance needs to improve
United Utilities	48 ↑↑	1.2 ↔	98.6 ↓↓	99.9 ↑	69 ↓	104 ↑	*** Permit compliance needs to improve
Wessex Water	48 ↓	3.5 ↓↓	99.0 ↓	100 ↔	59 ↑	105 ↑	*** Serious incidents and self reporting needs to improve
Yorkshire Water	78 ↑	3.3 ↓	98.0 ↑↑	100 ↑	80 ↑	132 ↑	*** Poorer performance on serious incidents
Sector	87 ↑	2.8 ↓	97.4 ↓	99.99 ↑	66 ↔	105 ↔	

Key: status for performance

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

Key: performance comparison to last year

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

Key: overall rating

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

Discharge compliance permit figures relate to all non-compliances including those that directly affect the environment and those that pose a risk to the environment. We believe both are important and must be included in our assessment of performance. In 2013 three companies had some non-compliances due to them collecting insufficient samples to meet Directive requirements rather than a failure to achieve numeric limits set on their permits. This applies to Thames Water at 12 sites, Northumbrian Water at 2 sites and Wessex Water at 1 site.

Annex one: History of EPA results

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

	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	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	Yellow	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

	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	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	**

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Annex two: 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.

1. Protecting the environment

- A plan in place to achieve 100 per cent compliance for all licences and permits.
- Look up table permits for water quality discharges should be 100 per cent compliant.
- Compliance with flow requirements, including MCERTS certification, at Waste Water Treatment Works.
- Reducing serious (category one and two) pollution incidents, trending towards zero by 2020. There should be at least a 50 per cent reduction compared to numbers of serious incidents recorded in 2012.
- Trend to minimise all pollution incidents (category one to three) by 2020. There should be at least a third reduction compared to numbers of incidents recorded in 2012.
- Restored sustainable abstractions outcomes are achieved.
- 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).
- High levels of self-reporting of pollution incidents with at least 75 per cent of incidents self-reported by 2020.
- Environmental improvement schemes (e.g. Asset Management Plan, Water Resource Management Plans) are planned well and delivered as planned.
- Effective management of transferred private sewers and pumping stations with low levels of pollution incidents.
- No D, E, or F rated sites under OPRA for waste related sewerage service Environmental Permitting Regulations permits.
- Sample and provide data in relation to self monitoring under Operator Self Monitoring (OSM) and Urban Waste Water Treatment Directive (UWWTD).
- Act in a manner consistent with the National Flood and Coastal Erosion Risk (FCERM) Strategy for England, when carrying out FCERM functions.
- 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.

2. Sustainable management of drainage and surface water

- 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.
- A comprehensive maintenance programme for networks and sewage treatment works.
- A targeted programme of capital maintenance.
- Reduced sewer flooding of properties, trending to zero.
- Work in partnership with lead local flood authorities to deliver value for money sustainable solutions that reduce flood risk.

3. Security of supply

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

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