

The state of pollution in rivers: Briefing note Ahead of House of Lords debate on 29.02.2024

Wildlife and Countryside Link ([Link](#)) is the largest environmental coalition in England, bringing together 82 organisations to use their joint voice for the protection of the natural world.

Executive summary

- Freshwater pollution remains at stubbornly high levels. A failure by water companies to invest in water infrastructure is a major contributor to this. It is important to highlight that pollution comes from other sources also, including intensive agriculture and urban development.
- Reform is needed to direct investment in water infrastructure and ensure it delivers environmental benefits, including:
 - Restoring the Environment Agency's budget to 2010 levels, enabling greater monitoring.
 - Placing a 'Green Duty' on Ofwat, enabling a greater environmental focus.
 - Setting a legally binding overall water health target, enabling holistic action across pollution sources.
- Further action will be needed to reduce freshwater pollution, including farming reform and the introduction of an Environmental Rights Bill.

Baroness Bakewell of Hardington Mandeville has secured a House of Lords debate on 29th February on the state of pollution in rivers and the case for regulation of private water companies. Ahead of the debate, Link highlights the following points:

Water companies have failed to invest in infrastructure, leading to sustained pollution

A variety of indicators show stagnation (at best) in the health of freshwaters in England over recent years:

- As of 2019, only 16% of surface waters in England attained 'good ecological status' or 'good ecological potential'. This did not substantially change between 2015 and 2019.¹
- The average number of macroinvertebrate families present in English rivers, an excellent long-term indicator of water health, were improving since 1990 but not increased since around 2005.²

¹ <https://www.gov.uk/government/statistics/england-biodiversity-indicators/21-surface-water-status#assessment-of-change-in-status-of-surface-water-bodies-in-england>

² <https://www.gov.uk/government/publications/an-analysis-of-national-macroinvertebrate-trends-for-england-1991-2019/an-analysis-of-national-macroinvertebrate-trends-for-england-1991-2019-summary>

- 85% of the 42 salmon rivers in England are categorised as being ‘at risk’ (71%) or ‘probably at risk’ (14%).³ The main UK population of Atlantic salmon were reclassified by the IUCN from vulnerable to as endangered status in December 2023.⁴

This stagnation in freshwater health corresponds to stubbornly high pollution levels:

- The number of serious pollution incidents in English waters has remained constant for a decade (337 serious incidents were recorded in 2010 & 329 in 2021, with little variance in the intervening years).⁵
- The average number of sewage spills per storm overflow remains high; 23 per year in 2022 (last available data for all storm overflows), comparing to 29 in 2021 and 33 in 2020.⁶ The Environment Agency ascribed the slight fall between 2021 and 2022 to drier than average weather in 2022 rather than water company action.
- Data for storm overflows affecting designated bathing waters shows that the average number of discharges from storm overflows into a bathing water in 2023 was 8.4, for an average duration of 3.7 hours. This is an increase from an average of 5.6 spills per overflow for an average duration of 3.2 hours in 2022.⁷

A historic failure by water companies to invest in the infrastructure required to reduce pollution has contributed to these trends. In 2011, Defra’s ‘Water for Life’ White Paper noted that only 1% of public sewers in England and Wales were replaced or rehabilitated between 2000 and 2008.⁸ The White Paper observed that, at this rate, it would take 800 years to replace or rehabilitate the entirety of the sewage network (most sewers require major repair after 60 to 80 years⁹). 2000-2008 was a time when the fiscal sun was shining, with interest rates low. This historic failure to invest, both in sewer systems and the equally important other infrastructure elements, including treatment works and data collection mechanisms, has contributed to the pollution challenges England now faces.

The pace of investment has not picked up in recent years. Ofwat’s 2023 water company performance report highlights that water companies underspent their water enhancement forecast allowance

See also: <https://www.ceh.ac.uk/press/invertebrate-biodiversity-improving-englands-rivers-long-term-trends-show>

For further data on further species declines, see https://stateofnature.org.uk/wp-content/uploads/2023/09/TP25999-State-of-Nature-main-report_2023_FULL-DOC-v12.pdf

³ <https://environmentagency.blog.gov.uk/2023/09/07/results-from-the-latest-report-into-uk-salmon-stocks/>

⁴ <https://wildfish.org/latest-news/main-uk-populations-of-atlantic-salmon-move-to-endangered/>

⁵ <https://oifdata.defra.gov.uk/themes/water/B2/>

⁶ <https://www.gov.uk/government/news/improved-monitoring-of-sewage-spills-to-drive-enhanced-environmental-protection-and-enforcement> & <https://environmentagency.blog.gov.uk/2023/03/31/storm-overflow-spill-data-shows-performance-is-totally-unacceptable/>

⁷ <https://environmentagency.blog.gov.uk/2023/12/18/environment-agency-bathing-waters-storm-overflow-data/>

⁸ <https://assets.publishing.service.gov.uk/media/5a7c7b64e5274a559005a299/8230.pdf>

⁹ <https://www.imperial.ac.uk/news/242831/sewage-overspills-result-from-lack-infrastructure/>

(intended to fund investment in infrastructure) by £587 million over the 2020-23 period.¹⁰ The Environment Agency has expressed concern at continued low infrastructure investment by water companies.¹¹

As climate change puts increasing pressure on ageing infrastructure¹², the inadequacy of historic and recent investment levels is becoming increasingly apparent.¹³ Welcome progress in some specific areas of pollution, such as reductions in ammonia levels¹⁴ driven by targeted investment to meet ambitious goals, are being offset by creaking infrastructure overall facing greater demand than ever.¹⁵ The easier areas of pollution to address (such as ammonia) have largely been tackled, leaving a lot undone in other areas.¹⁶ Sewage is only one item on this 'still-to-solve' list; pollution threats from chemicals, microplastics and pharmaceuticals are all growing, contributing to a harmful polluting cocktail drawn from a variety of sources. The result is stubbornly high pollution levels and freshwaters that remain in poor health.

Given the failure to invest in the measures needed to reduce pollution and improve water quality, and the continued payment of large bonuses to water company executives¹⁷, public concern at the state of the water sector is well founded. We welcome the Government's recent plans, in response to concern about untreated sewage, to limit water bosses' bonuses if a company commits serious criminal breaches.¹⁸

The wider picture

It is important to emphasise that the public debate around untreated sewage is just the tip of an unpleasant pollution iceberg. Current Environment Agency data indicates that most sector-derived water quality failures come not from one-off pollution events or intermittent sewage spills, but from continually discharged *treated* wastewater. Phosphorus is the most common reason that English waterbodies fail to meet Good Ecological Status, with 55% of assessed river water bodies and 73% of lake water bodies failing phosphorus standards. Effluent from sewage treatment works is the main

¹⁰ <https://www.ofwat.gov.uk/wp-content/uploads/2023/09/Water-Company-Performance-Report-2022-23.pdf>

¹¹ <https://environmentagency.blog.gov.uk/2023/03/31/storm-overflow-spill-data-shows-performance-is-totally-unacceptable/> See also: <https://www.theguardian.com/environment/2022/dec/06/ofwat-attacks-water-firms-lack-of-investment-to-cut-sewage-discharges>

¹² Ageing, but not largely Victorian, as sometimes claimed. See <https://www.windrushwasp.org/single-post/mythbusters>

¹³ <https://www.sas.org.uk/updates/climate-change-and-the-sewage-scandal/>

¹⁴ <https://www.gov.uk/government/publications/state-of-the-water-environment-indicator-b3-supporting-evidence/state-of-the-water-environment-long-term-trends-in-river-quality-in-england>

¹⁵ For more on this mixed picture on pollution, see October 2022 overview paper: <https://www.sciencedirect.com/science/article/pii/S0048969722041110>

¹⁶ https://consult.environment-agency.gov.uk/++preview++/environment-and-business/challenges-and-choices/user_uploads/phosphorus-pressure-rbmp-2021.pdf

¹⁷ <https://www.bbc.co.uk/news/business-68270068>

¹⁸ [Government cracks down on bonuses for water company bosses - GOV.UK \(www.gov.uk\)](https://www.gov.uk/government/news/government-cracks-down-on-bonuses-for-water-company-bosses)

source of phosphorus in many water bodies, and accounts for 60-80% of phosphorus entering rivers nationally. Historically, many treatment works have employed preliminary screening, primary settlement of solids and secondary biological treatment, but lack tertiary treatments such as those which can strip nutrients from the effluent.

The lack of a legislative driver to add phosphate stripping was initially the cause of this absence, later followed by cost-benefit calculations which deemed changes too expensive. A target to reduce phosphorus loads from treated wastewater by 80% by 2038 set under the Environment Act 2021 will now see significant investment in this area, though even this could see improvements prioritised according to where it's cheapest to meet the target, rather than by ensuring investment where the environmental benefits will be greatest¹⁹. This all serves to highlight that whilst some water company pollution is a result of poor performance by companies, some is also directly attributable to the lack of strategic Government steer, including through regulation, in driving investment.

Regulatory reform is needed to fix water company performance

Many water company failures can be traced back to a failure of regulation, driven by resource constraints and poor strategic choices.

The Environment Agency saw its environmental protection budget more than halve in the last decade, from £170 million in 2009-10 to £76 million in 2019-20. More recent increases have helped to halt the decline, but not to reverse it.²⁰ After such a sustained period of financial pressure, it is perhaps not a surprise that the Environment Agency is struggling to monitor and enforce the rules designed to prevent the pollution of freshwater systems.²¹ Ofwat's reduction in funding was less than that experienced by the Environment Agency, but also led to staff cuts²² and acknowledged reductions in regulator efficiency.²³

These reductions in regulator efficiency have real world consequences. As a Judicial Review challenge case brought by WildFish in 2023 demonstrated, Environment Agency and Ofwat practices around storm overflows risk breaching the law.²⁴

Ofwat has also been hindered by a lack of strategic direction. The Industry and Regulators Committee 2023 report into failure in water and sewage regulation concluded that Ofwat had not been given clear guidance from the Government on how it should balance and prioritise its (sometimes clashing)

¹⁹ <https://www.wildlifetrusts.org/blog/ali-morse/will-environment-act-wastewater-target-deliver>

²⁰ <https://hansard.parliament.uk/commons/2022-11-17/debates/29A0035B-708A-4796-8C52-395CA86C7C54/EnvironmentAgencyEnforcementBudget>

²¹ See whistleblowing account here: <https://www.theguardian.com/environment/2022/jan/20/environment-agency-cuts-staff-blow-whistle>

²² <https://utilityweek.co.uk/exclusive-ofwat-to-shed-jobs-as-government-cuts-bite/>

²³ See for example 2014 Ofwat 'lessons learnt' report: https://www.ofwat.gov.uk/wp-content/uploads/2015/10/prs_web20140116lessons.pdf

²⁴ <https://wildfish.org/latest-news/wildfish-puts-ofwat-and-the-environment-agency-on-notice/>

objectives.²⁵ The report also suggested that what guidance Ofwat had been given tended to prioritise keeping water bills low at the expense of required environmental investment. Due to this lack of environmental direction, Ofwat struggles to properly hold water companies to account for environmental pollution.

This lack of strategic focus on the environment has been exacerbated by the Government's recent proposal to extend the Growth Duty (under the Deregulation Act 2015), a requirement to have regard to the desirability of promoting economic growth, to Ofwat. Link has strongly objected to this proposal which would weigh the balance even more heavily towards economic and cost considerations, at precisely the time when it needs to be adjusted the other way.²⁶

Three interconnected reforms would address these regulatory failures and enable improved regulation of water companies to reduce water pollution. We recommend that the Government:

Restore regulator funding

Any credible plan to turn around water regulation must tackle the sustained shortfalls in enforcement. The Government should commit to restoring the Environment Agency budget to 2009-10 levels in real terms, by 2025.

Funding should include flexible revenue budgets, rather than just capital investment budgets which have dominated recent funding increases for environmental public bodies. Capital spending is urgently needed, but day-to-day revenue spending is also needed to support guidance, monitoring, data collection and enforcement work. Revenue spending to enable increased monitoring is essential; the last comprehensive assessment of freshwater condition was in 2019, and the next will only take place in 2025. Water pollution monitoring has been reduced to such an extent that few pollutants are monitored and reported in ways that allow preventative action to be taken. These data shortfalls must be addressed by better monitoring, to inform better understanding of what actions are working to restore river health and what more needs to be done.²⁷ Defra's recent announcement that Environment Agency will increase monitoring is welcome, but it is unclear how much additional funding will be allocated to enable this, and how long it will be sustained for.²⁸

A comprehensive, sustained increase in budget will also help equip the Environment Agency to respond more effectively to some of the fastest growing water quality challenges, including the insufficiently understood problem of chemical pollution.²⁹

²⁵ <https://committees.parliament.uk/publications/34458/documents/189872/default/>

²⁶ https://www.wcl.org.uk/docs/WCL_Response_Growth_Duty_Extension_Consultation_17_08_2023.pdf

²⁷ See <https://www.theoep.org.uk/report/government-remains-largely-track-meet-its-environmental-ambitions-finds-oep-annual-progress>

²⁸ <https://www.gov.uk/government/news/inspection-surge-to-crack-down-on-water-sector-pollution>

²⁹ See <https://www.wcl.org.uk/toxic-chemical-cocktails-in-rivers-across-england.asp>
& <https://cdn.buglife.org.uk/2021/11/Pharmaceuticals-in-freshwater-environments-and-their-potential-effects-on-freshwater-invertebrates-1.1.pdf>

The Government should also commit to increasing Ofwat funding to allow for more effective day-to-day regulation of water companies.

Place a Green Duty on Ofwat

Clearer environmental direction for Ofwat could be provided by a strong new 'Green Duty'. This should require Ofwat to contribute, wherever this is possible, to the delivery of environmental targets under the Environment Act 2021 and the Climate Change Act 2008, balancing these objectives against its other statutory duties. Tying Ofwat's duties as a regulator explicitly to delivering environmental targets would ensure that these targets become key drivers of Ofwat's work, putting nature's recovery at the heart of processes such as the Price Review and requiring investment decisions to be made on the basis of environmental outcomes.

This kind of implementing duty would be an important step in translating the legally-binding targets set in the Environment Act into day-to-day operational decision-making in key agencies. Such a duty would "mainstream" environmental targets in regulators' work and help to expedite delivery.

This strengthened environmental basis for decision making should also drive greater use of Nature-Based Solutions (NBS), the restoration of habitats in such a way as to enhance their ability to store water and reduce pollution (restored woodlands and wetlands can act as sponges, soaking up and filtering pollution before it reaches rivers).³⁰ A growing body of evidence suggests these pollution reducing interventions can also provide cost saving benefits compared traditional concrete-based engineering³¹, potentially allowing key parts of the Storm Overflows Discharge Reduction Plan and other key planned water action to be delivered quickly and more cheaply than initially expected.³² With the strategic focus provided by a Green Duty, Ofwat could consider interventions to unlock more NBS, such as setting an aspirational sector wide target of 10% of Water Industry National Environment Programme (WINEP) investment going towards habitat restoration.

Set an overall water health target

To drive truly ambitious environmental action across the water sector, a long-term target for the overall health of the water environment is needed. Such a target does not currently exist under the Environment Act 2021, which means that when current requirements under the Water Framework Directive Regulations end in 2027, comprehensive action to improve the freshwater environment will become more difficult to achieve.

³⁰ https://www.wcl.org.uk/docs/WCL_Briefing_Nature_Based_Solutions_Water_December_2023.pdf

³¹ See for example Nature Based Solutions work undertaken on the River Petteril in Cumbria, which saw United Utilities deliver up to 7 times more phosphorus reduction than could have been achieved through wastewater treatment work interventions alone and making savings of £7m compared to traditional solutions alone:

<https://www.unitedutilities.com/Transforming-the-River-Petteril/>

³² <https://www.wcl.org.uk/a-missed-opportunity-to-truly-recover-our-waterways.asp>

Attempts to fill this strategic space with the Government's 2023 Plan for Water have not proved successful, as the document (although admirable in many ways) comprises a list of aspirations, rather than providing a legally binding, holistic target.³³ A single statutory target, set under Part 1 of the Environment Act, could be used by regulators to hold water companies to effective interventions to deliver improved water health, rather than permitting siloed activity to target pollutants where progress is easiest to achieve.

These reforms must be delivered swiftly, both to act on the public demand to make freshwater protection a policy priority³⁴, and to ensure that the coming budget boom for water infrastructure spending (set under the PR24 process, which could see water bills increase by over 30% up to 2030 to fund repairs³⁵) is used effectively by water companies to meaningfully reduce pollution.

Going further: Addressing pollution from agriculture & recognising environmental rights

Better regulation of the water sector is an important step towards to improving the health of our freshwaters; other steps also need to be taken.

2021 Defra data suggests diffuse farming pollution is responsible for over 40% of freshwaters failures failing to meet good ecological status.³⁶ 2022 RNAG data for England shows agriculture & rural land management contributed to 62% of river stretches failing (the 'State of Our Rivers Report 2024' from The Rivers Trust, launching on 26.02.24, will explore this and other varied sources of pollution in more detail). The authoritative 2023 State of Nature report found that *"Although many measures of water pollution have improved over the past few decades, significant water pollution issues remain, in particular in catchments linked to intensive agriculture"*.³⁷

Whatever action is taken on sewage, it will be impossible to fully restore England's freshwaters without also acting on river pollution from intensive agriculture. This is a policy problem that the Government has so far failed to tackle. Defra introduced the Farming Rules for Water in 2018 to protect rivers from agricultural pollution, only to ask the Environment Agency, as the regulator, not to initially enforce the rules.³⁸ The Government has been subject to legal complaint on subsequent guidance which may partially extend this non-enforcement, with an Office of Environmental Protection OEP investigation finding that the Government may have broken environmental law in its application of nitrogen regulations.³⁹ Further rules to prevent agricultural river pollution, with

³³ <https://www.wcl.org.uk/a-bit-wet-defra-plan-for-water.asp>

³⁴ <https://riveractionuk.com/healthy-rivers-are-an-influential-voting-issue-for-almost-half-of-british-public/>

³⁵ <https://www.bbc.co.uk/news/business-66979271>

³⁶ <https://anglingtrust.net/2022/04/21/lack-of-action-on-agricultural-pollution-is-killing-our-rivers/>

³⁷ <https://stateofnature.org.uk/>

³⁸ <https://www.theguardian.com/environment/2022/jun/20/government-retracts-unlawful-pollution-guidance-for-englands-farms>

³⁹ <https://www.wwf.org.uk/press-release/government-broken-law-river-pollution#:~:text=%5B1%5D%20In%20its%20response%20to,which%20Parliament%20has%20not%20ratified>

associated regulatory visits, have now dropped out of UK law and have not been replaced by the Government.⁴⁰

The Government should look to deliver fair and practical replacement regulations, and increase financial rewards for freshwater-health boosting farming practices. Farmers must be generously rewarded for nature-friendly farming practices that improve water quality⁴¹, but this should be delivered alongside the strengthening and enforcement of regulation, to ensure a level playing field and fairness across the sector.

Public anger at river pollution, seen in communities up and down the country over recent years, should also lead to lasting legislative reform. The common sense of powerlessness at seeing nature degraded by the actions of a few polluters speaks to a lack of environmental rights. The UK Government supported a UN resolution recognising everyone's right to a healthy environment in 2022, but this has not yet been recognised in UK law.⁴²

This continuing omission in the UK's human rights framework could be addressed by an Environmental Rights Bill, establishing a human right to a clean and healthy environment. Link has proposed just such a Bill⁴³ as part of its Nature 2030 campaign⁴⁴, to require relevant public authorities to act compatibly with the right to a healthy environment and to give people new legal tools (including a cap on legal costs in environmental cases) to challenge public bodies that act in ways that are incompatible with the right to a healthy environment.

This final element would empower river campaigners to hold polluters to account, allowing people to take legal action against environmental decisions which damage water quality without risking huge personal costs. A public body or water company which failed to have due regard to the right to clean water could be challenged by members of the public and campaigners, driving more nature-positive decision making.

This briefing is supported by the following Link members:

The Wildlife Trusts

The Rivers Trust

Surfers Against Sewage

River Action

WWT

WWF UK

⁴⁰ https://www.wcl.org.uk/docs/assets/uploads/Cross_Compliance_Briefing_01.12.23.pdf

⁴¹ https://www.wcl.org.uk/assets/uploads/img/files/2023_Nature2030EssayCollection.pdf pages 4-16

⁴² <https://www.wcl.org.uk/uk-government-must-embed-right-to-a-healthy-environment-in-domestic-law.asp>

⁴³ <https://www.wcl.org.uk/environmentalrightsbill.asp>

⁴⁴ <https://www.wcl.org.uk/nature2030.asp>

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