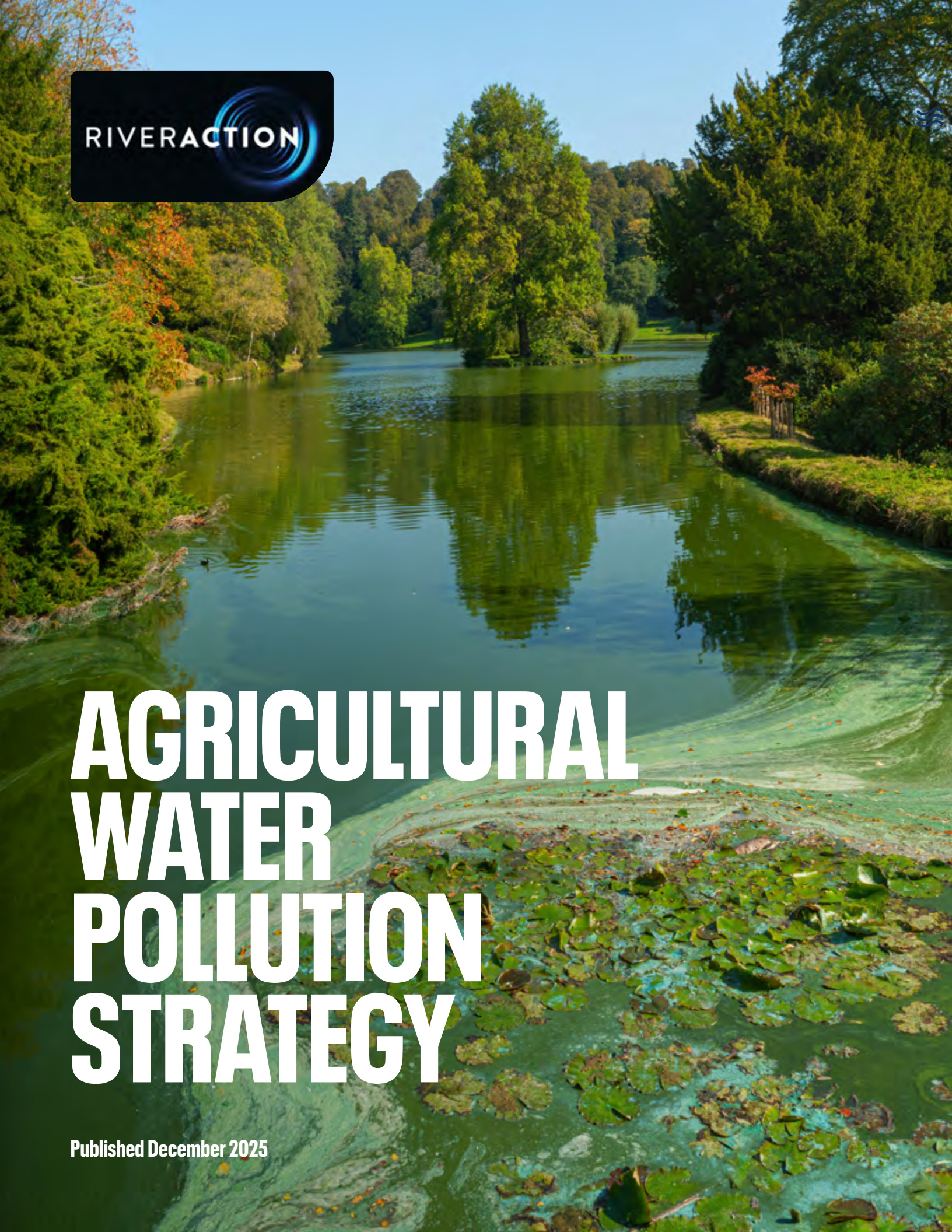


AGRICULTURAL WATER POLLUTION STRATEGY

Published December 2025

> “...THE UK’S RIVERS SHOULD BE HEALTHY AND THRIVING, ... A WHOLE SYSTEM APPROACH IS NEEDED TO ACHIEVE THIS, INCLUDING SUPPORTING FARMERS.”

1 https://researchbriefings.files.parliament.uk/documents/CDP-2025-0007/CDP-2025-0007.pdf

2 https://www.gov.uk/government/publications/environment-agency-chief-regulators-report-2024-25/environment-agency-chief-regulators-report-2024-25-supporting-evidence#pollution-incidents

CLEANING UP OUR RIVERS STARTS ON THE LAND

Agricultural water pollution has repeatedly been documented[1] as an even greater polluter of rivers, lakes and seas than sewage, yet it has been overlooked in key Government policies. The Environment Agency Chief Regulator Report 2024-2025 deemed it “one of the most significant influences on water quality”, with agricultural activities causing the same percentage (12%) of serious pollution incidents as sewage in 2024[2]. Labour will struggle to fulfill its election manifesto pledge to clean up our rivers if a holistic approach to addressing agricultural pollution is not enacted.

River Action has used a wide reaching consultation process to develop this **Agricultural Water Pollution Strategy**. Having previously briefed Defra water and farming ministers, we held workshops with representatives from the farming, eNGO, land management and retail sectors and put the outcomes to an independent advisory board†, composed of:

Ruth Chambers (Senior Fellow, Green Alliance)

Martin Lines (CEO, Nature Friendly Farming Network)

Matthew Doran (Land Use Policy Adviser, Country Land and Business Association)

Helen Browning (CEO, Soil Association)

Ellie Roxburgh (Sustainable Nitrogen Alliance, Soil Association)

Alison Caffyn (Rural Researcher)

Benet Northcote (Founding Partner, Four32)

Isabella Gornall (Founder, Seahorse Environmental)

All consultees that were engaged in the drafting of this strategy agree that the UK’s rivers should be healthy and thriving, and that a whole system approach is needed to achieve this, including supporting farmers.

† Membership of this board does not constitute endorsement of the final strategy.

"A REGULATORY REGIME WHICH BEYOND ANY DOUBT HAD FAILED TO PROTECT THE ENVIRONMENT FROM HARM"

Through developing this strategy, River Action has found that Defra's recent Diffuse Water Pollution Plans highlight a stark statistic: for some catchments, current Government plans only get us a fraction of the way to cleaning up agricultural water pollution. In the River Clun, phosphate pollution needs to be reduced by 80%, yet the current plan only gets us to 14%. Our aim should be to reach good ecological health for all UK rivers and that is why we have designed this strategy.

Farming and land management can harm water quality, for instance when runoff carries fertilisers or livestock waste into watercourses. Sir Jon Cunliffe's Water Commission acknowledges that agriculture is the most significant environmental pressure on water bodies, outlining that farming outstrips sewage as the dominant pollution source in many areas (45% of water bodies impacted compared to 44%).[3] According to the Rivers Trust 'State of our Rivers' report, farming activities are assessed as contributing to 62% of rivers ranked as having poor water quality[4]. The Office for Environmental Protection's 2024 review likewise finds that major pressures such as agriculture and transport are not receiving the resources or attention given to the water industry, and do not "see a picture of the necessary resources being directed to all major pressures".[5]

In this strategy, we use the term '**industrial farming**' or '**industrial livestock production**' to align with the recommendations in Eating Better's 2025 report.[6] In this report, we use Eating Better's definition of 'industrial farming' which at the farm level describes large-scale operations where animals are kept in confined or indoor systems with high stocking densities, genetic uniformity and minimal enrichment or outdoor access, using economies of scale to maximise output and minimise costs while feeding into an industrialised value chain.

River Action welcomes the current initiatives the Government is bringing forward to help tackle water pollution on the basis this would clarify and strengthen the regulatory regime. This includes the Dan Corry review in April 2025, which recommended that Defra should reform the Farming Rules for Water and a new approach to slurry application and storage is needed to help address diffuse water pollution, creating a circular economy for nutrients and boosting farming productivity.[7, 8]

However, the recommendations made by the Independent Water Commission failed to confront some of the structural problems at the heart of the industry and were crucially undermined by the **omission of agricultural water pollution** in the Commission's scope. There is now an opportunity to address this vital yet overlooked issue ahead of the Farming Roadmap due in 2026.

As Mrs Justice Lieven concluded in her landmark High Court judgment of 10 March 2025 (National Farmers Union v Herefordshire Council & Ors), the current approach to agricultural regulation comprises **"a regulatory regime which beyond any doubt had failed to protect the environment from harm"**.

3 https://assets.publishing.service.gov.uk/media/687dfcc4312ee8a5f0806be6/Independent_Water_Commission_-_Final_Report_-_21_July.pdf

4 https://theriverstrust.org/rivers-report-2024

5 https://www.theoep.org.uk/report/oep-finds-deeply-concerning-issues-how-laws-place-protect-englands-rivers-lakes-and-coastal

6 https://www.eating-better.org/projects/industrial-livestock-production/

7 https://www.gov.uk/government/publications/delivering-economic-growth-and-nature-recovery-an-independent-review-of-defras-regulatory-landscape/an-independent-review-of-defras-regulatory-landscape-foreword-and-executive-summary

8 https://www.theoep.org.uk/news/oep-launches-investigation-lawfulness-government-guidance-water-pollution-agriculture-0

IN THE UK, MANY INDUSTRIAL LIVESTOCK UNITS CARRY VAST HIDDEN ENVIRONMENTAL COSTS - PRODUCING MAJOR UNREPORTED GREENHOUSE EMISSIONS

The scale of the problem is exemplified in seminal research[9] that highlights the rapid growth in agricultural manure in the Site of Special Scientific Interest (SSSI) and a Special Area of Conservation (SAC) designated River Wye catchment.

The catchment has experienced the spreading of manure from Intensive Poultry Units containing over 25 million chickens resulting in runoff causing huge levels of eutrophication leading to algal blooms in rivers, killing protected Atlantic salmon and destroying invertebrate and plant life. In these hotspot catchments, evidence shows substantial phosphorus surpluses and legacy loads linked to industrial livestock systems, amplifying eutrophication risk.[10] While acknowledging that bloom magnitude is affected by factors such as river flow and temperature[11], the sheer volume of industrial livestock units in these catchments is a cause for major concern.

Thousands of residents from the Wye, Lugg and Usk river catchments have launched the UK's biggest ever environmental pollution collective legal action against companies in the Avara Foods poultry group and Dŵr Cymru Welsh Water, alleging that their activities have caused pollution in the region, with significant evidence on poultry manure and its pollution impacts expected to be produced by experts as part of the litigation.[12]

The case for an urgent transition to regenerative agriculture is clear. The latest FAO report on the 'State of food and agriculture 2025' calculates the true cost of global food systems, and states that industrial agriculture systems may increase land degradation and reduce crop diversity.[13] The latest Climate Change Committee Report notes that the agriculture sector needs to accelerate its emission reductions if the UK is to meet our 2030 NDC and longer-term targets.[14]

In the UK, many industrial livestock units carry vast hidden environmental costs - producing major unreported greenhouse emissions, with many planning applications from industrial units omitting emissions data.[15]

Large-scale industrial farms in England have also been found to breach environmental regulations nearly 7,000 times since 2015, according to data released under freedom of information laws to Terry Jermy, MP for South West Norfolk.[16] Critically, according to EA inspection data, between 2020-2025, 25% (a total of 7549 instances) of all instances of non compliance were from beef and dairy farming.

Additionally the vast expansion of intensive poultry units and the amount of excess nutrients in the manure they generate in the Severn and Wye catchment has caused a strain on local rivers, as chicken droppings contain higher phosphate levels than any other type of animal manure, depriving aquatic life and plants of oxygen.[17] The strategy currently focuses on England but will be extended to the devolved nations in due course.

9 https://zenodo.org/records/6598122#.Y5rj7HbP2Ul and https://www.wildlifetrusts.org/news/huge-impacts-uk-pig-and-poultry-farming-revealed-first-time and https://alisoncaffyn.co.uk/wp2/wp-content/uploads/2021/11/IPU-Research-briefing-4-water-pollution-Alison-Caffyn-Nov-2021.pdf

10 https://zenodo.org/records/6598122#.Y5rj7HbP2Ul

11 https://www.cardiff.ac.uk/news/view/2838819-focus-on-phosphate-not-a-silver-bullet-for-river-wyes-water-quality-problems%2C-report-finds

12 https://www.leighday.co.uk/our-services/group-claims/river-wye-claim/

13 https://openknowledge.fao.org/server/api/core/bitstreams/94383693-fc35-4c93-8e71-87cfb7941916/content/state-of-food-and-agriculture-2025/food-supply-chains-transformation.html#note-3_9

14 https://www.theccc.org.uk/wp-content/uploads/2025/06/Progress-in-reducing-emissions-2025-report-to-Parliament.pdf

15 https://www.theguardian.com/environment/2025/nov/05/intensive-livestock-farms-fail-to-declare-climate-impacts-in-emissions-scandal

16 https://www.theguardian.com/environment/2025/jun/12/research-reveals-24000-megafarms-across-europe

17 https://committees.parliament.uk/writtenevidence/40668/pdf/

We recognise and support wider concerns such as farmers being paid a fair price. However, this seven point plan of deliverable actions could substantially reduce the well documented damage[18] being done to our watercourses by agricultural pollution while enabling the transition to regenerative agriculture and enhanced food security.

In addition to the specific recommendations made in this strategy, all policies to address agricultural water pollution should be integrated across upcoming Government frameworks, including the Farming Roadmap, the Farming Profitability Review, updated Sustainable Farming Initiative), the White Paper for water, the Food Strategy, the Landuse Framework and the Circular Economy Strategy.

THIS STRATEGY CONTRIBUTES TO THE GOVERNMENT'S POLITICAL PRIORITY OF REMOVING UNNECESSARY OR DISPROPORTIONATE BARRIERS TO SUSTAINABLE GROWTH AND BUILDING TARGETS.

18 https://researchbriefings.files.parliament.uk/documents/CDP-2025-0007/CDP-2025-0007.pdf

1 PROPER AND CLEAR ENFORCEMENT OF ANTI-POLLUTION REGULATIONS

The framework for compliance should outline the circumstances in which enforcement action will be taken, recognising the Environment Agency has a legal duty to secure compliance. Robust enforcement can be achieved by consolidating a structured framework for compliance with the relevant regulatory regime.

THE CURRENT PROBLEM

Since the introduction of the Farming Rules for Water, the Nitrate Pollution Prevention Regulations and the Silage, Slurry and Agricultural Fuel Oil Regulations, there has been minimal effective enforcement of them, despite (as confirmed by extensive freedom of information requests) evidence of widespread non-compliance by various sectors of the agricultural community (notably livestock production).

The key reason behind this failure of enforcement lies in the absence of a consolidated framework setting out how the Environment Agency (EA) will ensure compliance in instances where the advisory approach has not resulted in compliance. The overwhelming majority of breaches of these regulations receive no more than a warning letter from EA inspectors[19], meaning there is little incentive to rectify non-compliance. The EA typically begins with advice and rarely escalates enforcement beyond that. We understand that a lack of information is a cause of non-compliance, and strongly encourage that any strengthening of enforcement is complemented by supportive measures such as better education, explaining the reasons for the regulations, funding enabling investment in suitable infrastructure, and accessible tools and resources encouraging better engagement and adoption.

Crucially, this is about ensuring that all operators have timely access to clear, practical information on the regulatory requirements. The EA should be enabled to exercise its mandate in a more effective way, taking a proactive approach to improving compliance rather than intervening only after incidents occur. There must also be clear accountability for who is responsible for ensuring compliance.

While it is important that farmers have access to quality advice on how to comply with regulations, it is critical that serious offenders suffer meaningful financial penalties, which to date has not happened.

Under regulation 14 of the Farming Rules for Water, it is the function of the EA to enforce the Farming Rules for Water. The nature of the enforcement duty on the EA was considered by the High Court in R(River Action) v Environment Agency[20]. The court said that the EA has a duty to ensure compliance with the Farming Rules for Water and, while it has discretion as to **how** it ensures compliance, that duty means that where non-compliance is identified it must take action that sets a non-compliant land manager on a “glidepath to adherence”. This means that compliance with the law must be the end point of enforcement action by the EA and, if it is not, then the EA will unlawfully have failed to enforce the law.

Under regulation 15 of the Farming Rules for Water, the Secretary of State may issue guidance to the EA in respect of its enforcement of the Farming Rules for Water and the EA is required to follow any such guidance.

Defra released revised statutory guidance ‘Enforcing the Farming Rules for Water’ in June 2025 which states that the EA ‘may’ use its powers of sanction where advice, guidance and warning letters have failed to secure compliance. However, given the EA’s legal duty to ensure compliance with the Farming Rules for Water, if the advisory approach has not secured compliance then the imposition of sanctions must follow. If there are circumstances in which the EA could decide not to take enforcement action where the advisory approach has failed to secure compliance, those circumstances should be identified and made clear.

19 https://deframedia.blog.gov.uk/2023/02/21/coverage-on-enforcement-action-surrounding-pollution-from-agriculture/

20 River Action UK v Environment Agency [2024] EWHC 1279 (Admin) Available from: https://www.bailii.org/cgi-bin/format.cgi?doc=/ew/cases/EWHC/Admin/2024/1279.html&query=(river)+AND+(action)+AND+(environment)+AND+(agency)

EXPLAINER ON SLURRY AND MANURE

This strategy defines manure as excrement or urine from any farmed animal apart from fish (including litter i.e pieces of animal bedding[21]), and defines slurry as liquid matter composed of any mixture of livestock excrement, livestock bedding, rainwater and washings, as per the SSAFO 2010[22] definition.

The framework should apply to the following existing regulations, but should adjust to incorporate relevant future regulations:

- The Reduction and Prevention of Agricultural Diffuse Pollution (England) Regulations 2018 (also known as the Farming Rules for Water), which were introduced to reduce and prevent diffuse water pollution from agricultural sources.
- The Silage, Slurry and Agricultural Fuel Oil (SSAFO) Regulations, which determine the standards of agricultural infrastructure required to prevent farm pollution from livestock slurry.
- The Nitrate Pollution Prevention Regulations, which require farmers on land that drains into nitrate-polluted waters to adopt farming practices designed to reduce the risk of causing such pollution.

River Action is pleased to have been included in the 2025 Defra workshops on reforming agricultural water pollution regulations, along with many of the stakeholders involved in this strategy. The workshops have been a good opportunity for industry to consult on reforming regulations. We anticipate extending the following recommendations to the reformed regulations, subject to review on their publication.

RECOMMENDATIONS

In additional to the above referenced co-design process, it is therefore strongly recommended that:

A Defra consolidates a structured framework for compliance setting out the process through which the EA will ensure compliance with the law where the advisory approach has not achieved it.

i. The framework should include time-bound actions to set a non-compliant land manager on a path to compliance, failing which enforcement action will be taken.

ii. Sufficient communication and advice needs to be available for farmers - including online resources and training - to support farmers to comply.

B Defra issues clarification on the EA's legal duty to secure compliance with the regulatory regime.

i. Where advice, guidance and warning letters have failed (notwithstanding clearly identified circumstances or lawful reasons for non-compliance), the EA must take enforcement action to achieve compliance.

ii. The EA should take a proactive approach to achieve compliance.

Cost consideration:

There is no cost to the Treasury for Defra consolidating a framework, and issuing clarification on the EA's legal obligation to ensure compliance.

21 https://www.gov.uk/guidance/how-to-use-store-or-move-manure-guano-and-digestive-tract-content

22 https://www.gov.uk/government/publications/slurry-infrastructure-grant-round-2-applicant-guidance/about-the-slurry-infrastructure-grant-round-2-who-can-apply-and-what-it-can-pay-for

CASE STUDY

River Action takes EA and Defra to court over conscious non-enforcement of Farming Rules for Water

In 2024, River Action brought a judicial review claim against the EA (as the defendant) and Defra (as an interested party) for failing to enforce the Farming Rules for Water along the River Wye[23].

It had been EA policy, in line with formal guidance from Defra (under the Conservative government), not to enforce key elements of the Farming Rules for Water which are designed to protect the soils of river catchments.

As the judicial review progressed, it became clear that the Conservative government (supported by the National Farmers' Union who made submissions at the hearing) and the EA had taken different interpretations of what the law required - interpretations which the judge deemed to be wrong.

Whilst the judgment concluded that the EA's approach to enforcement was not unlawful, an immediate result was the EA committing to take enforcement action where the law was being broken even if the farmer or land manager could show they were following the government's guidance.

As a result of the judicial review and an investigation launched by the Office for Environmental Protection[24], the new government announced a review of Defra's guidance on the Farming Rules for Water. Defra updated its statutory guidance in June 2025 and issued new guidance to farmers in July 2025, making it clear that nutrient applications must not exceed the needs of the soil and crop at the time of application, closing this loophole and bringing guidance in line with the law.

23 River Action take Environment Agency and DEFRA to court. Available at: "https://riveractionuk.com/news/river-action-take-environment-agency-and-defra-to-court/#:~:text=The%20core%20of%20the%20Judicial,levels%20of%20diffuse%20agricultural%20pollution

24 https://www.theoep.org.uk/news/oep-launches-investigation-lawfulness-government-guidance-water-pollution-agriculture-0

2 A WELL RESOURCED AND BETTER TRAINED ENVIRONMENT AGENCY

THE CURRENT PROBLEM

Environmental protection budgets within the regulatory agencies have been subject to repeated cutbacks over the last 15 years[25], with critical activities such as farm inspections and water quality monitoring being dramatically reduced historically and only slightly increased recently.

Whilst we welcome the recruitment of new agricultural inspectors in recent years, including Defra's overperformance in 2024, when 4,545 farms were inspected against a target of 4,000, and its commitment to fund 6,000 inspections a year by 2029[26] – the inspection regime must continue to be adequately funded and resourced if it is to deliver effective enforcement.

At present, even with these improvements and the EA's practice of targeting inspections based on perceived risk (so that, for example, a dairy farm may now be inspected roughly once every 10 years, while an outdoor rough grazing farm with a lower pollution profile may be inspected at a similar frequency to before), the overall volume of inspections still means that each of England's roughly 100,000 farms can expect, on average, to be inspected only once every 25 years[27].

25 https://www.theguardian.com/environment/2024/oct/29/hard-hit-defra-to-have-budget-slashed-further-despite-warnings#:~:text=Between%202009%2F10%20and%202018,Environment%20Agency%20and%20Natural%20England

26 https://environmentagency.blog.gov.uk/2023/07/20/improving-environmental-performance-through-our-farming-inspections/#:~:text=As%20the%20clock%20ticked%20around,agriculture%20regulation%20officers%20in%202021.

27 https://riveractionuk.com/wp-content/uploads/2025/03/River-Action-Dairy-Report-2024.pdf

RECOMMENDATIONS

It is therefore strongly recommended that the following measures be taken to strengthen the EA:

A The EA should have appropriate funding to enforce the law. In order to successfully consolidate regulations (as per Point 1) and enforce the law, the EA's resourcing should be revised.

B EA fines should be ringfenced for training farm inspectors and farmers on nutrient management on water and soils, as well as the necessary knowledge exchange.

At present, many inspectors do not have the necessary nutrient management certification (freedom of information responses demonstrate a significant lack of FACTS nutrient management training across EA inspectors) that would enable them to determine the crop nutrient needs and therefore risk of overnutrification from manure, and knowledge of regulatory requirements[28]. In addition, farmers need to receive training about how they can improve their environmental performance and address ecological issues including those that impact rivers such as soil health, nutrients applied to farmland, riparian woodlands/buffer strips along rivers.

Such training is proposed within the Sustainable Farming Scheme in Wales.

C Alongside this, the EA should make better use of widespread citizen science pollution data and incident reports (such as the WyeViz data[29] sharing scheme in the Wye catchment and Rivers Trust CaSTCo project[30]) to help target enforcement action and supplement official monitoring data.

Improved data from eDNA testing of rivers and available manure movement records from brokers and livestock companies would help establish the sources of pollution more precisely.

D Existing dysfunctionality regarding data sharing within the EA must be reviewed and eradicated.

For example, key farm data is not being made available to farm inspectors (e.g. farm sizes, livestock sizes and movements) due to GDPR restrictions between the EA and Rural Payments Agency.

i. **This recommendation was made by Dan Corry in the results of his independent review into Defra regulation (April 2025):** In Recommendation 29: "Defra should fast track the sharing of data across regulators and externally, making external commitments to do more."[31]

E The EA must optimise new technologies (such as drone & satellite surveillance and AI analysis) to multiply the reach of farm inspections.

28 In an FOI request to the EA dated 20 February 2025, River Action asked 'How many Environment Agency (EA) farm inspection officers that carry out inspections on poultry farms (both broiler and egg producers) across the Sub-Catchments are Fertiliser Advisers Certification and Training Scheme (FACTS) qualified advisors?' The response from the EA was 'None'.

29 https://public.tableau.com/app/profile/mcarpenter/viz/WyeVizWyeAllianceCitizenSciencedashboard/START

30 https://castco.org/powered-by-castco/

31 https://www.gov.uk/government/publications/delivering-economic-growth-and-nature-recovery-an-independent-review-of-defras-regulatory-landscape/an-independent-review-of-defras-regulatory-landscape-foreword-and-executive-summary

Cost consideration

The above measures would be in part self-funded by the introduction of a strengthened "polluter pays" principle, whereby those responsible for pollution - in particular farmers who apply excess nutrients to their land that subsequently enter and damage waterways - bear the cost of that pollution, with EA fines ring-fenced to fund this work. Responsibility should extend across the whole supply chain, beyond the farm gate, so that input suppliers, processors and retailers also play a role in preventing and paying for pollution.

Some additional support from the Treasury or reallocation within Defra will be required in the first instance - for example through mechanisms such as the Water Restoration Fund - recognising that the necessary technology and increased inspection capacity need to be operational before non-compliance can be prosecuted at the scale required to fund their ongoing development.

3 APPROPRIATE FUNDING AND UPDATED PLANNING GUIDANCE FOR SLURRY INFRASTRUCTURE

THE CURRENT PROBLEM

Many livestock farms, particularly in the highly polluting dairy sector, have failing infrastructure for the management of major pollutants such as silage and slurry. This is caused largely by the intensification of farming practices, with much higher milk yields and livestock densities now putting pressure on aged and under-invested infrastructure[32].

Farmers are often constrained by planning permission restrictions and timelines that make it difficult to match grant funding timelines with planning approval processes. This can delay critical infrastructure upgrades.

Many farmers do not own the assets they manage (e.g. tenants and contractors) and therefore cannot leverage those assets in slurry infrastructure grant applications making it financially impossible to obtain funding.

Simplifying and aligning planning and grant funding would enable more rapid uptake of slurry infrastructure improvements. The application process needs to be straightforward and timely. Many applicants for the recent Slurry Infrastructure Grant have abandoned the process, citing an over-complex process and extended timeframes. Engagement is essential to ensure positive outcomes from any future scheme. It is important to note that planning amendments must not come at the cost of the environment, as the positioning of slurry storage away from water courses and adhesion to manure management laws is critical.

32 https://riveractionuk.com/wp-content/uploads/2025/03/River-Action-Dairy-Report-2024.pdf

RECOMMENDATIONS

It is therefore recommended that Defra takes the following approach to upgrading failing infrastructure:

A An increase in the levels of grant funding - for slurry infrastructure deemed not up to standard by the EA - over a short period of time (e.g. 5 years).

This would enable a major upgrade of failing slurry infrastructure to occur, before the imposition of a stricter enforcement regime thereafter. Grant funding should only be increased for infrastructure in current production, to avoid supporting expansion of industrial livestock units.

B Planning requirements for slurry, silage and other water-management infrastructure should be reformed to reduce costs, delays and overcautious withholding of permissions for applicants.

At present, planning costs and uncertainty dissuade banks from loaning on these projects, even if they may be willing to finance the infrastructure itself. To address this, the following reforms are needed

i. Government should make it easier and faster for statutory consultees (i.e. EA, NE) to endorse slurry infrastructure applications.

ii. Local planning authorities must be properly resourced, to accommodate the need for specialist planners, and to account for whole catchment consequences.

iii. Options like Permitted Development Rights should be introduced to make it easier to build essential slurry, silage and water-management infrastructure, including in national landscapes and national parks.

iv. Exempt low-risk activities that require planning permission (i.e. attenuation ponds, concrete plinths). Well managed attenuation ponds are an effective tool to trap sediment and remove excess nutrients. They have the additional benefit of increasing profitability for farmers, who can use the accumulated water to irrigate fields.

C Grant funding must account for farmers' individual access to capital, and be flexible enough to combine with private finance.

The amount of investment required from farmers must reflect their access to capital and the ownership of that farm. Many farmers needing support with infrastructure such as slurry storage do not own the farms they manage (e.g. tenants and contractors) and cannot leverage assets or have short term tenure[33]. This also makes it impossible for them to provide the 50% match funding required to access the existing slurry grant system.

i. To address this, government grant finance should be flexible enough to be combined with private finance to support more efficient and faster infrastructure improvements, such as improved storage.

Cost consideration:

Given current Government spending restrictions, some targeted allocation of existing funds from the ELMs agricultural subsidy pot could provide additional cash for much-needed slurry grants. However, reallocation from ELMs alone would be insufficient, given the awarded and promised rounds of the Slurry Infrastructure Grant (£180.9 million) are equivalent to around 10% of the ELM budget - yet the awarded grants have not made major inroads into the scale of need. The Government should instead prioritise the provision of soft loans - for example, loans at 0% or nominal interest - to support the large-scale, long-term investment required in slurry infrastructure.

FIGURE 1

CASE STUDY

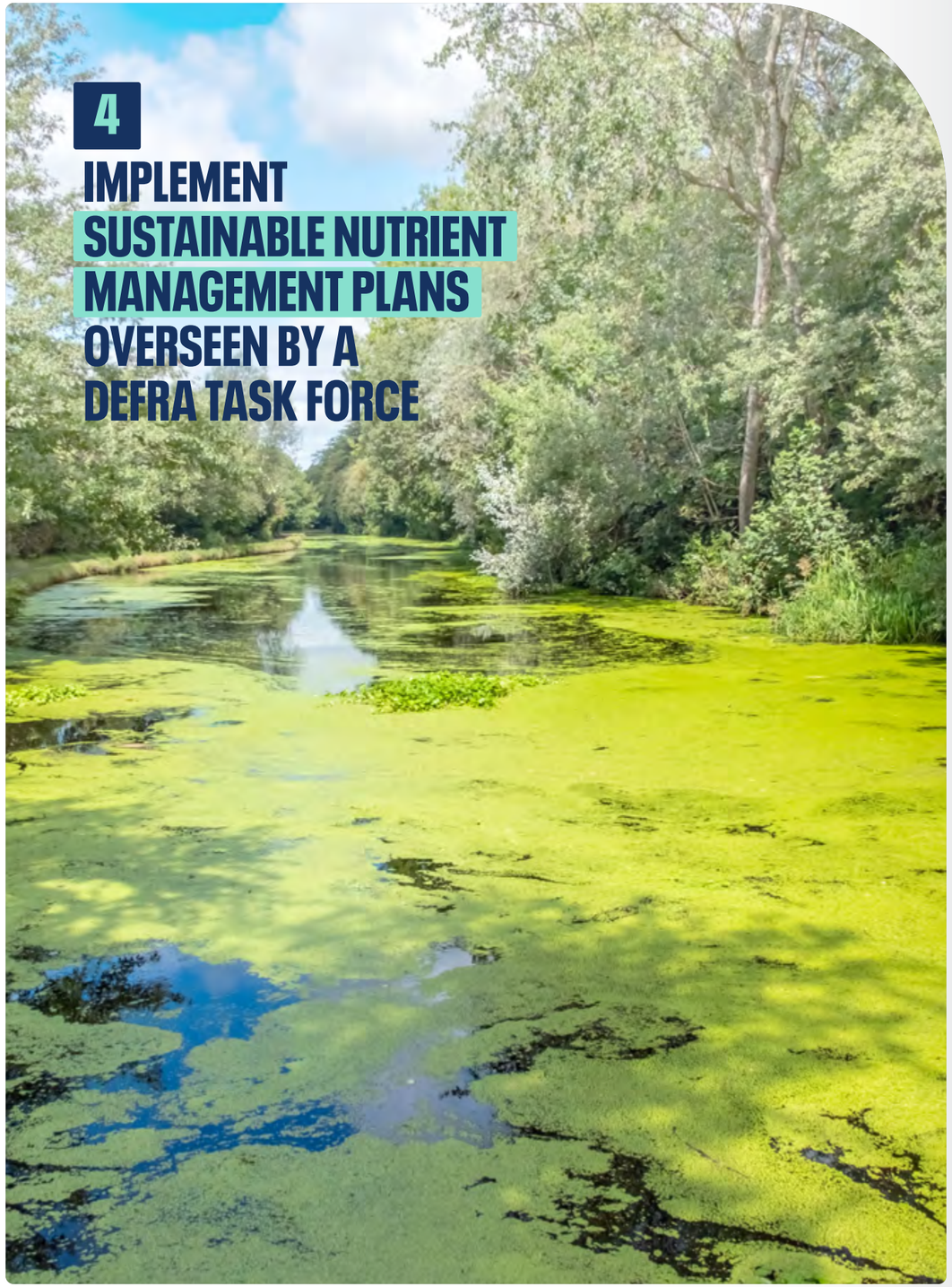
The challenge of infrastructure development for small and tenanted farms

- Whilst around 54% of dairy farms are considered large farms (with over 100 hectares) with the requisite scale to invest in upgrading farm infrastructure, the remainder are smallholdings, **with almost 40% of dairy farms being tenanted** (Figure 3).
- This significant number of tenanted farms potentially **reduces incentive** and **financial capacity** to invest in long term sustainable pollution and slurry management infrastructure.
- This results in instances of infrastructure failings (i.e. splits in slurry towers seen in Figure 1).
- Management solutions such as slurry interception ditches (as seen in Figure 2) would be supported by a revised approach to grant funding, as proposed.

33 https://riveractionuk.com/wp-content/uploads/2025/03/River-Action-Dairy-Report-2024.pdf

FIGURE 2

FIGURE 3



4 IMPLEMENT SUSTAINABLE NUTRIENT MANAGEMENT PLANS OVERSEEN BY A DEFRA TASK FORCE

THE CURRENT PROBLEM

The recent landmark High Court judgment of National Farmers Union v Herefordshire Council & Ors[34] held that agricultural manure can be classified as 'waste' under planning law (the Town and Country Planning Act 1990) and the Waste Framework Directive, unless it is used in farming in a way that will not cause environmental harm and so falls within this very narrow by-product exception. The Court also rejected the NFU's argument that other regulatory regimes should be assumed to prevent environmental damage, concluding that the Farming Rules for Water had "beyond any doubt" failed to protect the environment from harm.

The continuing rapid growth of large-scale industrial livestock units in the UK makes this an imperative given that widespread mismanagement of manure from livestock production is the single largest cause of agricultural pollution, and predominantly originates from large-scale industrial livestock operations and dairy farms. Overly concentrated industrial farming also leads to nitrogen emissions that are deposited nearby, polluting water, soils and habitats.[35, 36, 37, 38]

The continued expansion of large-scale industrial livestock in the UK, particularly pig and poultry units, has increased nutrient pressures on many catchments. Analysis from Friends of the Earth and Sustain shows that the number of EA-permitted industrial livestock units increased by 26% between 2011 and 2017, from 1,332 to 1,674 units, underlining how fast this model has spread.[39] In the UK, the number of permitted industrial farms rose from 1,621 in 2017 to 1,824 in 2023.[40] Industrial livestock production has become highly concentrated in certain hotspots, creating clusters of units, with the most industrial farming hotspots having 79 times more chickens than people.[41]

EXPLAINER ON SYNTHETIC FERTILISERS

At present, synthetic fertilisers are used far more extensively in UK farming than organic ones, with a resulting negative impact on water pollution.[42] Using good quality manure where there is a genuine nutrient requirement, and as part of a sustainable nutrient management strategy, would both support a circular economy and reduce the flow of harmful synthetic chemicals into our rivers.

At the heart of this crisis are high-risk land-use and management choices that are driving diffuse pollution - the principal cause of the UK's water quality failures - and accelerating sediment and siltation in our rivers. Crops such as maize (often grown as a feedstock for anaerobic digesters), potatoes, fodder beet and stubble turnips are frequently grown in ways that leave soils bare and vulnerable[43, 44], especially on sloping or compacted ground, with increasingly volatile weather patterns turning poorly protected fields into conveyor belts for soil, nutrients and chemicals straight into watercourses.[45]

34 The National Farmers' Union v Herefordshire Council & Ors [2025] EWHC 536 (Admin). Available at: https://caselaw.nationalarchives.gov.uk/ewhc/admin/2025/536

35 https://www.woodlandtrust.org.uk/media/1687/ammonia-impacts-on-ancient-woodland.pdf

36 https://www.plantlife.org.uk/wp-content/uploads/2023/10/We-need-to-talk-Nitrogen-Plantlife.pdf

37 https://www.gov.uk/government/publications/code-of-good-agricultural-practice-for-reducing-ammonia-emissions

38 https://www.cieh.org/ehn/environmental-protection/2024/may/uk-s-chicken-megafarms-are-fuelling-rise-in-ammonia-emissions/

39 https://www.sustainweb.org/assets/stink-or-swim-briefing-1714044098.pdf

40 https://www.theguardian.com/environment/2025/jun/12/research-reveals-24000-megafarms-across-europe

41 https://alisoncaffyn.co.uk/wp2/2024/11/11/uks-intensive-farming-hotspots-have-79-times-more-chickens-than-people-data-shows/

42 https://assets.publishing.service.gov.uk/media/68774c8339d0452326e28f09/BSFP_2024_PDF.pdf

43 https://www.gov.uk/government/news/hazards-of-growing-high-risk-crops-in-south-west-england

44 https://defrafarming.blog.gov.uk/sustainable-farming-incentive-pilot-guidance-manage-maize-to-reduce-runoff-and-erosion/

45 https://www.rothamsted.ac.uk/news/climate-change-threatens-uk-farmlands-ability-protect-water-quality

What are Sustainable Nutrient Management Plans?

These plans are intended to go beyond the baseline requirements set by the Farming Rules for Water. Whereas the Farming Rules for Water primarily set minimum standards for when and how nutrients may be applied to land, Sustainable Nutrient Management Plans are conceived as whole-farm nutrient balancing tools that consider all sources and pathways of nutrients over time.These plans would operate as an extension of the current requirements of farm level nutrient management plans.

How could Private Finance be leveraged?

Private finance initiatives have been used for nutrient trading schemes and could be incentivised for other schemes (i.e. manure trading). They are not in the scope of this strategy, however, we recognise that they are an important avenue for the Government to be looking into, as part of the wider effort to support farming profitability and reduce nutrient pollution.

Many of these crops are effectively locked into the industrial livestock system[46], yet regulation and enforcement have not kept pace with the risks, despite the problem, and the solutions, being clearly recognised in the Farming Rules for Water[47], which set out robust requirements for soil management and erosion control.

Ultimately, soil is pollution as soon as it leaves the land[48] and, because nutrients attach to sediment, even a theoretically "nutrient-neutral" and chemical-free system would still see rivers suffocating under silt unless we address the fundamental problem of runoff created by systemic changes in agriculture and long-standing failures in agricultural policy and enforcement.

46 https://www.biogas-info.co.uk/about/feedstocks/

47 https://www.gov.uk/guidance/rules-for-farmers-and-land-managers-to-prevent-water-pollution

48 https://www.r-e-a.net/wp-content/uploads/2021/08/QA-FRfW-2-Aug-2021.pdf

RECOMMENDATIONS

It is therefore recommended that Defra gives the following guidance to planning authorities and environmental regulators regarding Sustainable Nutrient Management Plans within a 6-12 month timescale:

A All farms must implement Sustainable Nutrient Management Plans, which should manage the movement or export of nutrients and removal of manure and digestate to ensure local soils cannot become oversaturated by excessive manure spreading.

i. **Nutrients should only be applied at the time of year when crops and soil require them**, avoiding periods of heavy precipitation.

ii. Every farm should have a sustainable nutrient management plan that accounts for all nutrients coming onto the farm and leaving the holding, whether used on-site or exported (the practicalities of which should be explored in the Taskforce, as per below). This should include feed and other imported inputs that determine the nutrient content of manures and slurries, recognising that feed composition directly influences how much nitrogen and phosphorus is contained in the manure that must be safely managed.

iii. This plan must clearly show how nutrients produced (e.g. manures, slurries, digestate) and nutrients imported (e.g. from neighbouring livestock units or other sources) will be applied to land in line with crop and soil need, so that they are put to good use and do not cause pollution.

iv. Alongside this, in catchments which fail the Water Framework Directive's 'good ecological health' status, a moratorium on additional or expanded industrial livestock units should be imposed.

v. Sustainable Nutrient Management Plans should also account for emerging scientific evidence to ensure the appropriate nutrients are represented.

B Furthermore, industrial livestock should be brought under the same nutrient neutrality moratorium as housing developments.

i. The High Court in National Farmers' Union v Herefordshire Council & Ors confirmed that local authorities can lawfully require nutrient neutrality assessments and mitigation as part of planning conditions.

ii. The Court rejected the NFU's argument that planning authorities must assume other regulatory regimes (like Farming Rules for Water or permits) are sufficient to prevent nutrient pollution. In other words, nutrient neutrality can be imposed via planning in addition to existing environmental rules.

iii. The judgment emphasises that nutrient neutrality assessments must be evidence-based and may properly take into account the cumulative impacts of multiple developments in a catchment.

C To support the implementation of Sustainable Nutrient Management Plans, Defra should prioritise the development of tools that increase data transparency regarding the movement of nutrients between farms.

i. A central record of nutrient movement data would enable greater long-term farm planning, and enable regulators to increase accountability to the receiving farm over their management.

ii. Defra should coordinate with existing initiatives and effective data governance principles from industry (i.e. the AHDB data exchange scheme).

iii. **MHCLG, working closely with Defra, should issue updated planning policy guidance to assist local planning authorities** with the correct application of the National Planning Policy Framework and the National Planning Policy for Waste.

iv. **Planning authorities should also be given guidance to ensure that the cumulative and indirect impacts of proposed new industrial livestock units are properly assessed, as per the Caffyn v Shropshire judgment.**[49] This will help to ensure that unsustainable clusters of livestock production (as has been allowed to happen in a number of catchments such as that of the Rivers Wye and Severn and Lough Neagh in Northern Ireland) do not develop elsewhere. The increased use of data transparency tools would support this assessment.

D To facilitate the removal of excessive manure from given areas, manure trading schemes should be facilitated as part of the Government's circular economy strategy, whereby the transfer of manure from areas of surplus to areas of deficit can be accelerated, using low-emission transportation methods, and where mixed-use farming is not available (e.g. from the industrial livestock producing South West of England and Wales to the arable farms of East Anglia).

i. Incentives could also be given for mixed use farms where livestock manure is used to fertilise arable, horticulture and orchards on the same farm or locally, without over-saturating soil with nutrients. In doing so this will have the additional circular economy benefit of substituting imported synthetic fertiliser with recycled domestically produced livestock manure and reduce the need and associated costs and emissions of transporting nutrients over long distances.

ii. The creation of a national market for manure could also provide livestock producers with an extra source of income.

iii. Support should also be available for research into new techniques and technologies seeking to facilitate simpler, more efficient manure distribution. Manure processing innovations provide an opportunity to reduce volumes and costs and achieve better environmental outcomes.

E To coordinate the above, a time-limited Taskforce for Sustainable Nutrient Management Plans should be established in Defra.

The taskforce should include the NFU, NFFN, CLA, NPA, Soil Association, Tenant Farmers Association and eNGOs.

i. The taskforce should operate on an expedited basis with timescales set out in a written Ministerial statement. Given the urgency of the issue, this should be enacted as part of a 'policy sprint'.

ii. The Taskforce should consider how the **importing of excess nutrients is balanced with proper use of nutrients**, at a regional, catchment and national level. The overall goal is to have no excess nutrients produced and for the equation to balance, with nutrient production occurring at a scale that does not harm environmental health.

iii. In practice, this means that **producers of nutrients** need a sustainable nutrient management plan (either used on-site or exported). Likewise, **users of nutrients** (i.e. arable farms) need a demonstrable plan that imported nutrients are put to good use, and do not cause environmental harm.

iv. The Taskforce should be aligned with Defra's White Paper for Sir Jon Cunliffe's Independent Review recommendations, and work in partnership with the Circular Economy Taskforce and Digestate Task Force.

v. The Taskforce should work with the Defra team producing the agricultural pollution regulatory reform recommendations.

49 R (Caffyn) v Shropshire Council [2025] EWHC 1497 (Admin). Available at: https://www.bailii.org/ew/cases/EWHC/Admin/2025/1497.html

CASE STUDY

Livestock manure can be legally classified as 'waste' with significant implications for farms across UK

On 10 March 2025, the ruling of National Farmers' Union v Herefordshire Council & Ors concluded that agricultural manure falls within the definition of 'waste' under the Town and Country Planning Act 1990 and the Waste Framework Directive, unless it is used in farming in a way that will not cause environmental harm and so falls within this very narrow by-product exception.

The High Court rejected the assumption that other regimes outside the planning system (in this case, the Farming Rules for Water, which were described in the judgment as "a regulatory regime which beyond any doubt had failed to protect the environment from harm") would operate effectively when the evidence showed the opposite.

This case has significant implications for how manure needs to be handled on farms across the UK and has exposed the failure of the current regulatory regime to protect the environment.

This judgment provides a strong legal basis for the Government and local planning authorities to adopt more robust planning policies and nutrient management controls for livestock operations across the UK.

This would be supported by the implementation of Sustainable Nutrient Management Plans.

CASE STUDY

Planning authorities must assess the cumulative and indirect impacts of multiple intensive agricultural developments in one river catchment

On 17 June 2025, the judgment of R (Caffyn) v Shropshire Council established that local planning authorities are required to assess the effects of spreading digestate on third-party land before granting permission for developments. The judgment also confirmed that councils, when carrying out an in-combination assessment under the Environmental Impact Assessment Regulations and the Habitats Regulations, must assess the effects of projects whose effects have not been assessed as part of the planning process and which need new or varied environmental permits.

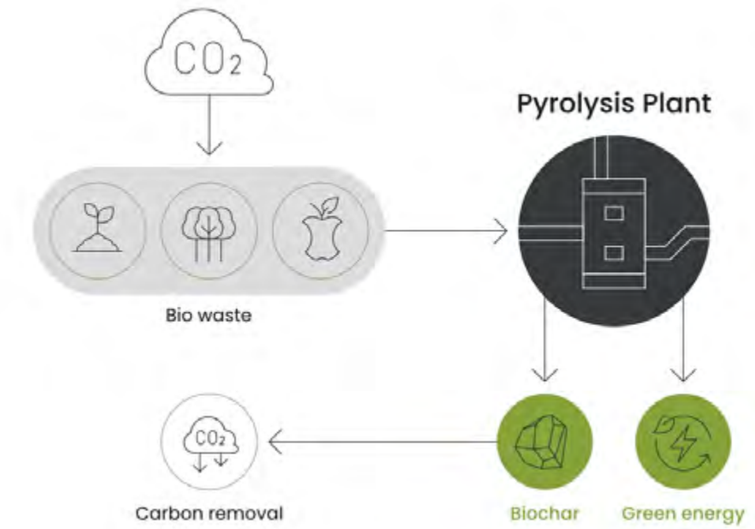
The High Court focused on real-world impacts and the purpose of environmental protection, confirming a continued emphasis on full and proper decision-making in planning and environmental decisions.

The ruling reinforces that, in assessing not only direct impacts but also indirect and cumulative impacts, local planning authorities must clearly record and evidence their assessment and any exercise of evaluative judgment. The existence of parallel regulatory regimes does not relieve local planning authorities of the duty to fully assess a proposed project and its potential impacts.

This judgment means that local planning authorities must:

1. Consider how livestock production units dispose of the waste from treatment facilities downstream including from anaerobic digestion plants, and
2. Assess the cumulative environmental impacts of having multiple intensive agricultural developments in one river catchment before granting permission for another.

This would be supported by the implementation of Sustainable Nutrient Management Plans.



Source: onnubiochar.com

CASE STUDY

Scalable circular economy technology solutions for agricultural waste processing.

A range of technological solutions for processing agricultural waste in an environmentally friendly way are increasingly being used.

A green technology company called Onnu has announced plans to establish several “hubs” in the Wye Valley that will transform the region’s substantial volume of poultry litter into biochar, a form of slow-release fertiliser.

By converting waste biomass into pyrolysis feedstock, a process that involves heating organic material without oxygen, they will transform an environmental challenge into a financial opportunity for local farmers.

The biochar produced could serve as a safe, easily transportable organic fertiliser, supporting a circular approach to UK agriculture.

Onnu says it has already proven the effectiveness of this approach and has set up practical trials in Namibia.

CCm Technologies is a cleantech company that helps businesses make better use of resources through Carbon Capture and Utilisation (CCU) solutions. Their approach enables companies to turn captured carbon and waste from agriculture and industry into commercially valuable products while enhancing sustainability. Their technology uses carbon dioxide captured from industrial sources to stabilise key materials like ammonia and phosphates found in waste streams. These stabilised materials are then used to produce new fertilisers with a much lower carbon footprint than conventional alternatives.

Individual farmers are also taking initiatives to process manure on site. One example is Whittern Farms, one of the largest producers of intensively reared poultry in the Wye River Catchment, now operates three incineration plants which reduce all their manure to phosphorus-rich potash. This in turn is processed into pelletised organic fertiliser and sold to a number of arable farmers in Norfolk.

5

LOWER THRESHOLDS FOR ENVIRONMENTAL PERMITTING REGULATIONS AND EXTEND TO BEEF AND DAIRY

Existing thresholds for Environmental Permitting Regulations should be lowered for pigs and poultry and extended to include dairy and industrial beef production.

THE CURRENT PROBLEM

Currently, farmers must only acquire an environmental permit to rear pigs or poultry intensively in an installation with 40,000 places for poultry, 2,000 places for production pigs (over 30kg) or 750 places for sows.[50]

The current permitting threshold is widely recognised as being too high, most recently by the House of Lords Environment and Climate Change Committee.[51]

In addition, dairy and industrial beef production are significant risks for nutrient pollution, but are not covered by environmental permitting. The latest Environment Agency data shows that the dairy sector had the highest number of serious and significant incidents affecting water between April 2020 to March 2025. It also shows that the beef sector had more serious and significant incidents than poultry and pigs, yet is not covered by environmental permitting. [52]

RECOMMENDATIONS

It is therefore recommended that Environmental Permitting Regulations are reformed, as per below.

A Permitting thresholds should be lowered for pigs and poultry

i. Industrial livestock units are generally considered to be those falling within the environmental permitting limits. This is an arbitrary, if convenient, threshold and many livestock units below these thresholds are potential sources of significant pollution.

ii. Following the advice of the House of Lords Environment and Climate Change Committee, the government should hold a consultation on the appropriate threshold to expand Environmental Permitting Regulations regulations for pigs and poultry within the next twelve months.[53]

B Dairy and industrial beef production should be brought under environmental permitting regulations with an appropriate threshold set.

i. Following the advice of the House of Lords Environment and Climate Change Committee, the government should extend the Environmental Permitting Regulations to large dairy and beef cattle farms within two years.[54]

50 https://www.gov.uk/guidance/pigs-and-poultry-intensive-farming-environmental-permits

51 https://publications.parliament.uk/pa/ld5901/ldselect/ldenvcl/161/16102.htm

52 https://www.gov.uk/government/publications/agriculture-and-rural-land-management-challenges-for-the-water-environment#full-publication-update-history

53 https://publications.parliament.uk/pa/ld5901/ldselect/ldenvcl/161/16102.htm

54 https://publications.parliament.uk/pa/ld5901/ldselect/ldenvcl/161/16102.htm

6 TRANSITION TO A CATCHMENT-BASED APPROACH TO NUTRIENT MANAGEMENT, USING REGIONAL WATER AUTHORITIES

THE CURRENT PROBLEM

Specific river catchments are becoming dangerously polluted due to industrial scale farming and unsustainable legacy nutrient levels accumulating within neighbouring soils, with no emergency plans in place.

The problem of excessive phosphorus being locked into soils is exemplified in research by RePhoKus.[55] Key examples of this include the Special Areas of Conservation (SAC) of the River Wye (the status of which was recently downgraded by Natural England from Unfavourable-Improving to Unfavourable-Declining) and the River Clun in Shropshire (which has been downgraded to an “unfavourable condition” due to agricultural water pollution).

As such, specific catchments such as Poole Harbour and the River Wye[56] have called for greater use of Water Protection Zones (WPZ), most notably in the Manifesto for the Wye. A Water Protection Zone is a designated area where regulations restrict certain activities, to limit pollution of a named waterbody.

Despite being a powerful tool to limit pollution where other controls (such as voluntary reductions, permits or other regulations) have failed, the statutory regulation has only ever been applied once in the UK, to the River Dee in 1999. This tool could be used to limit the expansion of intensive livestock farms in catchments already at or over nutrient carry capacity.[57]

55 https://zenodo.org/records/6598122#.Ytzp9nbMLIX

56 https://www.wyemanifesto.org/

57 https://naturalresources.wales/guidance-and-advice/environmental-topics/water-management-and-quality/water-quality/dee-water-protection-zone/?lang=en

RECOMMENDATIONS

A Regional water authorities should be established (as per Sir Jon Cunliffe's recommendation) to provide oversight and guidance on the implementation of Sustainable Nutrient Management Plans.

The bodies would facilitate the coordination and implementation of Sustainable Nutrient Management Plans for a specific catchment, and coordinate training and resources for farmers.

i. A regional approach to nutrient management would also help address the cumulative impact of industrial farming.

ii. Regional oversight would enable a tiered approach whereby the most affected areas are prioritised as the focus of rapid action and enforcement (e.g SSSI's and chalk streams).

B To support the transition to a regional, catchment-based approach to nutrient management, facilitation funding from Sustainable Farming Initiative for farming clusters should be re-instated.

i. In addition to additional funding, farming clusters should be organised around farming sectors i.e. dairy/poultry where possible.

C The prioritised areas for rapid action and enforcement, should consider implementing Water Protection Zones with proper resourcing and with the appropriate safeguards.

These would effectively place the river into "special measures" in order to take immediate action to control pollution levels whilst mitigations were being implemented.

i. The Water Protection Zones should involve placing limitations on the future expansion of industrial scale farms in high-risk catchments.

ii. To ensure their success, **regulators must have sufficient resources** and Defra must have the capacity to process permits to allow businesses and farmers to still function. The Government must allocate proportional funds to the EA and NRW to ensure that the implementation of a WPZ is smooth and that regulatory delays do not threaten business viability.

iii. **To ensure their appropriateness, Water Protection Zones should include the following safeguards:**

1. Amend the Water Resources Act 1991 to (a) introduce a sunset clause for all WPZs with the ambition of improving water quality in the catchment to 'good'. At the end of this term, the Government must evaluate how the catchment's health has changed, and either rescind or modify the WPZ.
2. Any WPZs introduced must be based on robust, recent data clearly demonstrating that the legislated WPZ actions will be effective.
3. Where the WPZ requires downstocking or destocking, farmers would need to be paid compensation for its implementation, e.g., for stranded assets.
4. Support should also be given to farmers to trial innovative alternative uses for ILU (Intensive Livestock Units) sites to help support those choosing to leave the sector.

CASE STUDY

Poole Harbour Nutrient Management Scheme (PHNMS)

Nitrate levels in Poole Harbour have been building up for many years, as algae grows far more than the environment can cope with and river inputs (like excess nutrients) do not readily flush out to sea.

Despite existing controls, such as Source Protection Zones, a Nitrate Vulnerable Zone and various Environmental Permits, the PHNMS is calling for Defra to implement a Water Protection Zone for the catchment.[58] Meanwhile to tackle this problem, farmers in Poole Harbour initiated a farmer-led voluntary nutrient management scheme.

Adopting changes earns farmers nitrate credits which can be bought and sold, creating an additional income stream and incentivising environmental improvements.

As a result of the scheme, 52.2 tonnes of nitrate reduction into the Harbour was achieved in 2021[59], with 15 farms able to reduce their nitrate losses to below targets set by the EA. Despite this, the group continues to support the implementation of a Water Protection Zone for greater protection from pollutants.

58 https://pooleharbournitrates.org.uk/faq/

59 https://hive.greenfinanceinstitute.com/gfihive/toolkit/identifying-and-working-with-sellers/poole-harbour-nutrient-management-scheme/

7

PREVENT TOXIC SEWAGE SLUDGE CONTAMINATING AGRICULTURAL LAND

THE CURRENT PROBLEM

Over 3.5 million tonnes of sewage sludge is spread on agricultural land every year. Studies have shown that sewage sludge can contain hazardous substances such as per- and polyfluoroalkyl substances (PFAS), flame retardants, microplastics and pharmaceuticals, many of which are not effectively removed during sewage treatment processes and are not subject to adequate regulatory oversight.

The application of contaminated sewage sludge to agricultural land poses significant risks to soil health, water quality and public health. Repeated spreading risks soil becoming unable to support crop growth.

Current UK regulations on sewage sludge, established in 1989, are insufficient to address the complexities of modern contaminants. The regulations have been deemed 'outdated' by a 2025 Environment Agency report, which also calls for updated government policies on sludge[60].

Ultimately, the UK should raise its level of ambition in tackling sewage sludge. It should follow suite on the polluter pays principle, as being pioneered at the European Union level through the updated Urban Wastewater Treatment Directive[61] and Sewage Sludge Directive[62].

60 https://www.gov.uk/government/publications/agriculture-and-rural-land-management-challenges-for-the-water-environment#full-publication-update-history

61 https://eur-lex.europa.eu/eli/dir/2024/3019/oj

62 https://op.europa.eu/en/publication-detail/-/publication/2fd1f88a-438e-11ed-92ed-01aa75ed71a1/language-en

RECOMMENDATIONS

A Incorporate sewage sludge into Environmental Permitting Regulations:

i. Mandate that the spreading of sewage sludge to land falls under the Environmental Permitting (England and Wales) Regulations.

ii. Ensure that water companies and other sludge producers obtain appropriate permits for the treatment, storage and use of sewage sludge on agricultural land.

iii. Regularly review and update permitting requirements to reflect emerging scientific evidence and technological advancements.

iv. Permits should reflect stacking risk, whereby the cumulative effect and frequency of all waste compost being spread on agricultural land is accounted for.

v. To create a baseline for permits, soil testing should be conducted to account for historic accumulation of chemical contaminants.

B Extend monitoring and enforcement to include emerging contaminants:

i. Expand monitoring programs to include a comprehensive suite of contaminants beyond the current focus on heavy metals and pathogens.

ii. Specifically test for chemicals such as per- and polyfluoroalkyl substances (PFAS), pharmaceuticals, flame retardants, microplastics, and other emerging pollutants.

iii. Implement stringent enforcement mechanisms to ensure compliance with updated monitoring requirements.

63 https://assets.publishing.service.gov.uk/media/687dfcc4312ee8a5f0806be6/Independent_Water_Commission_-_Final_Report_-_21_July.pdf

C Establish legal limits for emerging contaminants:

i. Set legally binding thresholds for the presence of PFAS, microplastics, and other identified contaminants in sewage sludge applied to agricultural land.

ii. Base these limits on the latest scientific research and risk assessments to protect human health and the environment.

iii. Regularly review and adjust limits as new data becomes available.

D Establish an Extended Producer Responsibility scheme for PFAS and other major chemical pollutants, as per recommendation 211 of the Independent Water Commission.

i. Recommendation 211[63]: "In 2024, the European Union adopted a revised Urban Wastewater Treatment Directive (UWWTD), with a strong focus on addressing micropollutants in urban wastewater. Article 9 of the Directive introduces an Extended Producer Responsibility scheme, placing financial and administrative obligations on producers of human medicines and cosmetic products (micropollutants). 257 Producers will be required to cover at least 80% of the costs associated with the advanced 'fourth stage' – quaternary - sewage treatment upgrades necessary for removing these substances from wastewater, including capital and operational expenses, and 100% of data collection and administrative activities related to the scheme. The EU acknowledges that more work is needed to understand the sources and impact before implementing similar reforms in relation to PFAS and microplastics. In a number of Call for Evidence responses, stakeholders such as Water UK, the Royal Society of Chemistry, and the Country Land and Business Association (CLA) have called for the introduction of an Extended Producer Responsibility scheme to fund quaternary treatment."

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