



Progress in improving the natural environment in England 2024/2025

January 2026

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The Office for Environmental Protection is a non-departmental public body, created in November 2021 under the Environment Act 2021. Our mission is to protect and improve the environment by holding government and other public authorities to account. Our work covers England and Northern Ireland. We also cover reserved matters across the UK.

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This report is accompanied by a Methodological Statement and Statement of Compliance with the UK Statistics Authority Code of Practice for Statistics, both available on the OEP website.

Foreword



Foreword

This, our fourth statutory report on progress in improving England's natural environment, comes at a time when government vision is focused on economic growth. Nature's place in this vision must be as the very foundation of growth, as nature's recovery is a prerequisite of prosperity, health and wellbeing.

Recent analyses (led by The Cabinet Office) of the chronic risks facing this country are sobering. Their wording is specific and stark: 'Accelerating climate change, biodiversity loss, and pollution will have cascading, compounding impacts, which will amplify threats to national and international security.'

Decelerating and adapting to climate change, halting and reversing biodiversity loss, and avoiding and mitigating pollution are all the objects of the Environmental Improvement Plan and, consequently, of our assessments.

With these reports, our aim is to shine a light on how government is working towards improving the natural environment, and so towards a more prosperous and more secure future. We ask: is government doing now what it must, under law, and what it must, for future generations?

There has been no step change in progress in this last year. Instead of seeing positive progress overall, we continue to find that government remains largely off track to meet its environmental targets and obligations, including biodiversity targets set under the Environment Act and the UK's twin 30 by 30 commitments for protected areas and, additionally, for restoring degraded ecosystems.

To meet or to miss 2030 targets is now a choice for this government.

In December 2025, government published a revised Environmental Improvement Plan (EIP25). Government describes EIP25 as a roadmap for improving the natural environment and as a prioritised, systems-based plan that is clear on what, how and who will deliver environmental ambitions.

On initial view, we can see that much of the formal advice we provided for the review of the EIP has been taken on board. The new EIP is a more coherent plan. Delivering all that is planned would improve substantially the chances of government achieving its environmental ambitions.

However, there are places where EIP25 could be stronger still. Some commitments remain broad statements of intent. There are gaps in the plans to monitor progress. Resources, particularly for higher tier agri-environment schemes, appear as stretched as ever. We are examining the revised EIP in more detail to see if it is indeed the much-needed roadmap towards meeting targets and commitments and, moreover, towards improving environmental outcomes.

Alongside a new EIP, government is making efforts to set direction and provide clarity on several related fronts. Work continues on a long-awaited Land Use Framework, a new Farming Roadmap, Food Strategy, Circular Economy Strategy and a UK Marine Strategy, all alongside significant planning and water sector reform. So EIP25 comes in a period of substantial and ongoing change. Now that it is published, as the key environmental plan for action and as required by statute, there is a real opportunity for other reforms to

complement the EIP, and to provide coherence, from the strategic policy level through to local decision making. In striving to achieve its aims for the environment and for statutory targets, government has two particular opportunities.

First, the Corry review found the current system for environmental regulation to be outdated, inconsistent, highly complex and not delivering enough for nature or growth. It called for more focus on outcomes, including greater alignment between the regulatory approach and government's more ambitious targets, particularly those in the EIP. We agree.

We know that effective regulation – well designed and well implemented – can ensure outcomes are delivered. It can support nature's recovery and economic growth, in line with government's ambition of a win-win. Across the breadth of our work, we find repeatedly that environmental laws are not delivering the intended benefits, not because the law is wanting, but because it is not being implemented effectively or at the pace and scale needed.

Second, we have repeatedly recommended to government that to get on track to meet environmental targets it must get nature-friendly farming right. In our view, it must do all that it can to regroup, to resource, encourage and incentivise uptake of higher tier schemes, particularly Landscape Recovery. We and others have provided analysis on how agri-environmental and farming regulation can be improved. Bringing existing funding, effective regulation and long-term vision together to enable farmers to effect positive change is the single biggest lever government can pull to make gains for nature on land and in water.

Our overall message is consistent. Government needs to speed up and scale up its efforts, and actions must be shown to stack up to make achieving targets and commitments a reality. Risks are materialising and are mounting year on year, yet there is little sense of urgency. Government's progress continues to be too slow to overcome, even to keep up with, the environmental challenges the country now faces.

The window of opportunity to meet 2030 targets is closing fast. 2030 is the first stop on the way to reversing biodiversity loss by 2042. The EIP25 must drive change across government. In turn government must drive change across society. Only by doing so can intentions turn into actions that deliver the significant environmental improvements to which government is committed and which are so urgently needed.

We are grateful to those at the Climate Change Committee, Defra, Environmental Standards Scotland, the Environment Agency and Natural England who have supported our analysis, as well as others in government and beyond.



Dame Glenys Stacey
Chair, Office for Environmental Protection

Executive summary



Executive summary

The Environment Act 2021 established a governance framework for the environment with four key provisions: legally binding targets set under the Act; long term Environmental Improvement Plans (EIP) that must set out the steps government intends to take to significantly improve the natural environment; an Environmental Principles Policy Statement that is applicable across central government; and an oversight body, the Office for Environmental Protection that helps ensure this framework works as it should.

With this report, we provide our assessment of government's progress towards improving the natural environment in accordance with the EIP, Environment Act targets and interim targets. Our assessment of progress covers the annual reporting period from April 2024 to March 2025.

The revised EIP (EIP25) was published on 1 December 2025. This was not in time for us to consider it in our assessment this year. However, the Environment Act targets, the previous set of interim targets and EIP23 together provide the overall structure and content against which we assess progress during the annual reporting period. Where possible, our assessment of prospects and opportunities for improvement also reflects developments since March 2025.

The environment matters

Government's response to our last progress report, for 2023/2024, stated that: 'the UK government's number one mission is to kickstart economic growth. We know that the natural resources that underpin our economy are finite and under increasing pressure. The natural environment is amongst our most valuable national assets'¹

Even so, the value and benefits nature provides are at risk from its continued degradation. Deterioration in the natural environment risks slowing economic growth and resulting in UK gross domestic product being 6% lower than it would otherwise have been by the 2030s.²

As government makes clear in its EIP25, nature is not a blocker of economic growth, instead it enables, drives and protects economic growth. Over and above its intrinsic value, the ecosystem functions and services nature provides means it is indispensable.

The UK has the distinction of being one of the most nature-depleted countries in the world and having one of the lowest rates of nature-connectedness.³ Even then, in 2022, an estimated 20 million people in England gained health benefits from recreation in nature and the annual economic value of this service alone was estimated at £6 billion.⁴

Nature helps mitigate the impacts of climate change. People are directly affected by increased rainfall and flooding, as well as by increasingly frequent heat events. Nature contributes to the regulation of urban heat and the annual economic value of this cooling service in 2022 was £824 million. Nature removes air pollution, which is responsible for an estimated 26,000 to 38,000 early deaths in England. In 2022, the annual economic value of this service in England was £2.5 billion.⁴

The United Nations Environment Programme has warned that the triple planetary crises of climate change, nature and biodiversity loss, and pollution are not just amplifying and accelerating but also appear to be converging and feeding into economic, geopolitical and

social crises, such as conflict for territory and resources, displacement and deteriorating health.⁵

In the UK, discussions of national security centres around defence and deterrence, while the environment is largely absent. Government has nevertheless identified climate change, biodiversity loss, increasing competition for critical materials and pollution as having cascading, compounding impacts which will amplify threats to national security, the economy and communities.⁶ It is no exaggeration that environmental deterioration threatens the UK way of life.

In the same way that these challenges are interconnected and the effects are compounded when linked, the solutions are also interconnected. There are opportunities for deliberate action that can catalyse change across society to move towards low-carbon, resilient development and inclusive prosperity.⁷

Our assessment addresses the challenges of climate change, nature and biodiversity loss and pollution, and identifies actions that are needed to improve the natural environment. It also considers the coherence of policy developments and how tools and mechanisms already in place can be used more effectively to drive progress.

Is England's natural environment improving?

Viewed against the aim of significantly improving the natural environment, our summary assessment is that while more progress has been made this year compared to last, very substantial challenges remain and government remains largely off track to meet EA21 targets and EIP ambitions, targets and commitments ([Figure 1](#)).

Our assessments of progress are based on available knowledge, evidence and analysis. We take an integrated approach to provide an assessment of issues within and across environmental domains, across geographic scales, and over past, present and future timescales.

We assign distinct ratings to past trends, to progress within the reporting year, and to the prospects of meeting targets, commitments and ambitions. Their different scope and timings mean trends, progress and prospects can have different assessment ratings. For example, long term environmental trends are unlikely to capture progress within the reporting period. Similarly, good, or indeed poor, progress within one reporting year will inform but may not change our assessment of longer-term prospects.

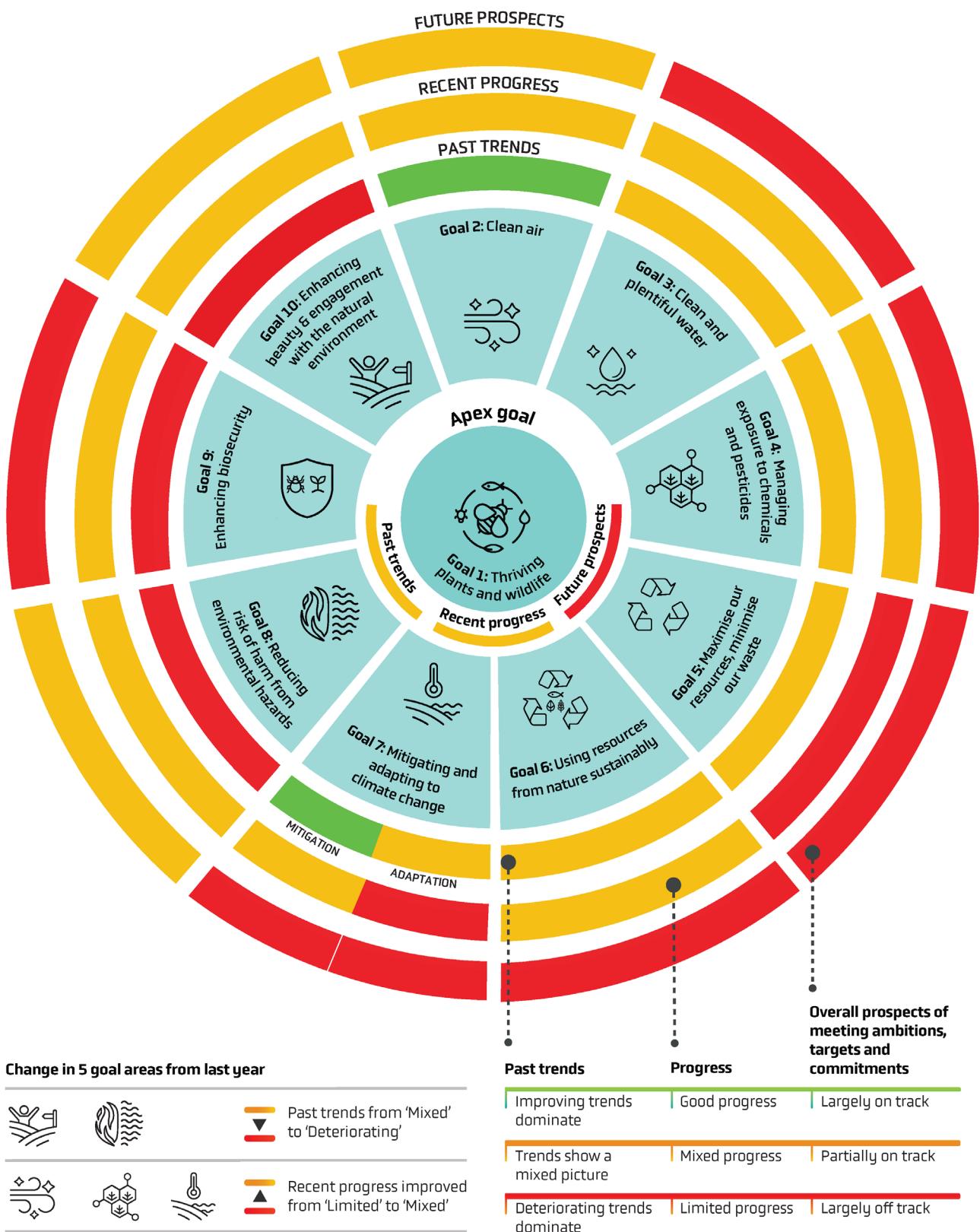


Figure 1. The Office for Environmental Protection summary assessment of past trends, progress for the year 2024/2025 and overall prospects of meeting ambitions, EA21 targets and other commitments, across the 10 goals of the EIP23.

Past trends

Our assessment of 59 recent trends shows that 24 are improving, 11 are static, 16 are deteriorating and eight were not assessed due to data availability ([Figure 14.1](#)). These proportions are broadly similar to last year.

In summarising trends at the level of the 10 goal areas of the EIP23, we conclude that improving trends dominate in two goal areas (clean air and climate mitigation), deteriorating trends dominate in three goal areas (reduced risk of harm from environmental hazards, enhancing biosecurity, and enhancing beauty, heritage and engagement with the natural environment) and for the other five goal areas and for climate change adaptation, trends are mixed ([Figure 1](#)).

When compared to our 2023/2024 progress report, the two goal areas of reduced risk of harm from natural hazards, and enhancing beauty, heritage and engagement with the natural environment have fallen back from showing mixed trends to deteriorating trends dominating.

Progress in the reporting period

Our assessment of progress towards 43 individual targets and commitments is that good progress has been made over the annual reporting period towards 12, mixed progress towards 19, and limited progress towards 12 ([Figure 14.2](#)).

Of these 43 targets and commitments, 13 are set under the Environment Act 2021 (EA21 targets). For these 13, our assessment is that good progress has been made over the annual reporting period towards four, mixed progress towards seven and limited progress towards two ([Figure 14.3](#)).

When compared to our 2023/2024 progress report, a higher proportion of targets and commitments show good progress and a lower proportion show limited progress.

In summarising progress at the level of the ten goal areas of the EIP23, we conclude that progress was mixed in eight goal areas and for climate change mitigation and limited in one and for climate change adaptation ([Figure 1](#)).

When compared to our 2023/2024 progress report, there is improvement in relation to the goal areas of clean air, and managing exposure to chemicals and pesticides, and to climate change mitigation, where our assessment of progress has moved from limited to mixed.

Overall prospects

Informed by our assessment of past trends and recent progress, our assessment of the prospects of meeting 43 individual targets and commitments is that government is largely on track towards meeting five, partially on track towards meeting 16, and largely off track towards meeting 21, while the prospects of meeting one target could not be assessed due to a lack of sufficient evidence ([Figure 14.4](#)).

For the 13 EA21 targets, our assessment is that government is largely on track for meeting three, partially on track for five and largely off track for five ([Figure 14.5](#)).

When compared to our 2023/2024 progress report, a slightly lower proportion of targets and commitments are considered largely on track and a slightly higher proportion largely off track.

In summarising progress at the level of the ten goal areas of the EIP23, we conclude that in three goal areas government is partially on track, and in seven government is largely off track ([Figure 1](#)). Compared with our 2023/2024 progress report, our assessment ratings have not changed.

How can progress be improved?

Our previous reports made five key recommendations focused on the effective implementation of the EIP: clear governance, the need for delivery plans, improved interim targets, and a monitoring, evaluation and learning framework. These recommendations remain standing and relevant.

In our 2023/2024 progress report, we made eight key recommendations and 36 specific recommendations covering the EIP23 goals and selected cross-cutting areas. Of these, only five have seen good progress by government in the annual reporting period. These include addressing recommendations on measuring species abundance, invasive non-native species, and improving access to nature. There has been mixed progress in relation to 14 recommendations, limited progress in relation to 18, seven were not assessed ([Figure 14.7](#)). We found limited progress on all of our recommendations in relation to using resources from nature sustainably, among which progress on sustainable soil management is particularly slow.

We considered government's formal response to our specific recommendations on goal areas and cross cutting themes in each of the chapters. While government has stated it largely accepts our recommendations, it has only accepted 15 of 44. It has accepted and deferred a response to a further six, partially accepted 10, deferred a response to 11 and has rejected two recommendations.

In many cases where a response has been deferred, government indicated that the EIP25 will clarify target delivery plans or pointed to various policy developments and pending decisions. These are also the recommendations for which we have not assessed progress but will do so after analysing the EIP25.

Our key recommendations in our 2023/2024 progress report reflected our advice on revision of the EIP and focused on priority areas for action. This year we do not make new key recommendations as our recommendations to date have addressed the main barriers and opportunities and priority areas for action. Therefore, they remain relevant and still stand.

Our standing key recommendations remain that government needs to (1) get nature-friendly farming right; (2) maximise the contribution of protected sites for nature; (3) speed up action in the marine environment; (4) set out clear mechanisms for reconciling competing demands for land and sea; and (5) develop a circular economy framework. They also include three cross-cutting areas aimed at securing effective implementation of the EA21 targets and a revised EIP, namely, (6) mobilise investment at the scale needed; (7) regulate more effectively; and (8) harness the support needed to achieve ambitions.

As much depends on the EIP25 and other important policy developments, we will continue to assess progress towards our standing recommendations in our next progress report.

Conclusions

Our overall assessment of progress is slightly more positive for this annual reporting period than the previous one. This reflects policy developments as well as delivery and government's attempts to address problems. Our overall assessment of prospects remains largely unchanged as we need to see how new policies are finalised and implemented as well as impacts, particularly of the EIP25.

Our assessment of progress and prospects continues to be hampered by the level of detailed information made available by government and gaps in the evidence base. The degree of disclosure and transparency of delivery planning information and actions taken to date is still not consistent with that needed for full scrutiny or government accountability.

Government has a range of commitments for 2030 including an updated set of EA21 interim targets in the EIP25. However, the window of opportunity to meet the many commitments for 2030 is closing fast. Given the time lag between implementation and measurable ecological change, time is short for actions to substantively influence the prospects of meeting targets. However, government can still maximise the prospects of doing so by setting out sufficiently defined, ambitious plans and implementing them effectively. To be a global leader, the UK must move mountains by 2030.

Nature recovery is at serious risk. Only by restoring the natural environment will government secure the foundations that underpin quality of life and prosperity for current and future generations. However, the effectiveness of policy measures will be limited if they do not tackle the underlying causes of environmental degradation related to the societal systems that meet the needs for food, energy, mobility and the built environment; and improve policy coherence, harness synergies, and deal with trade-offs.

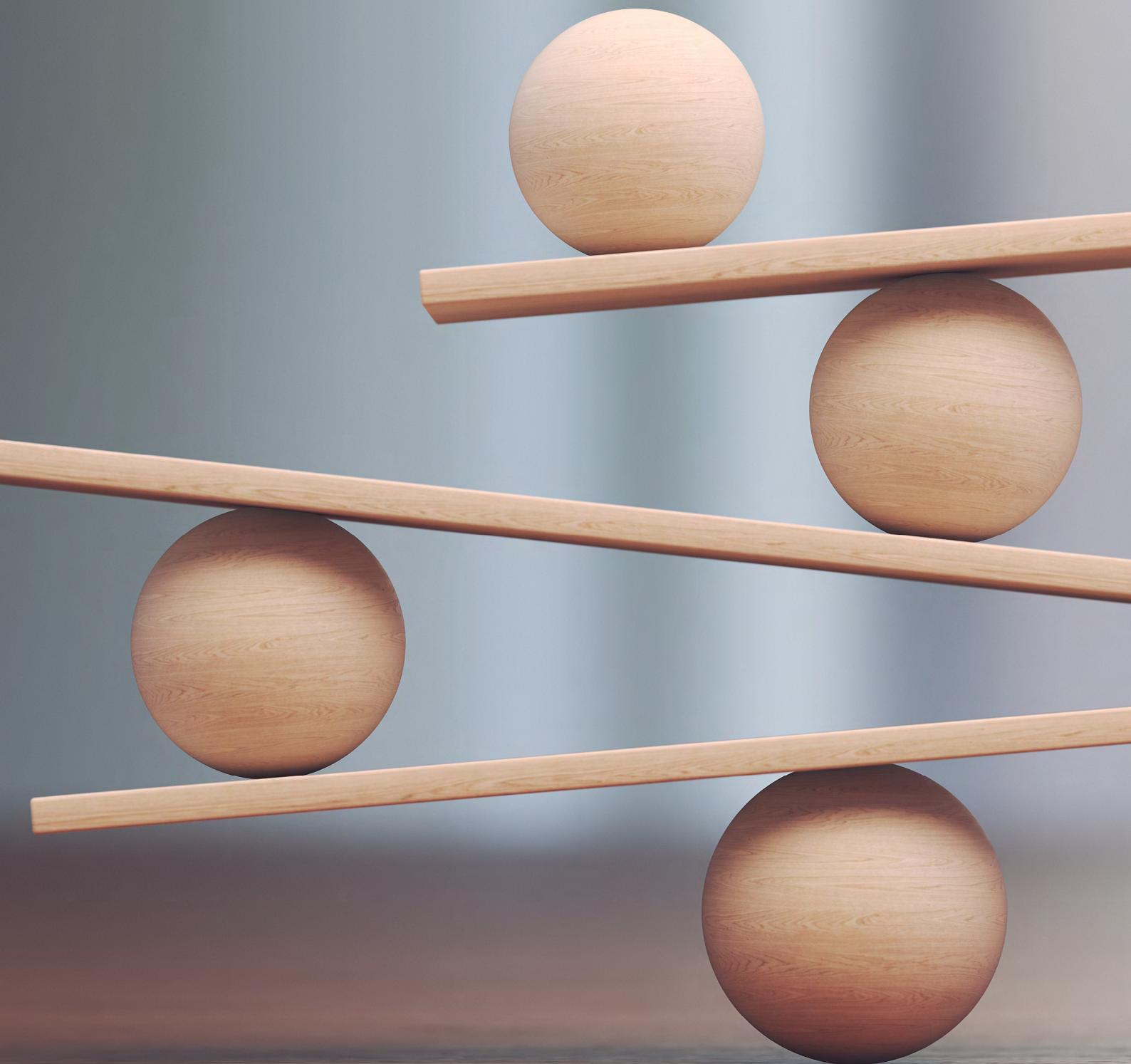
Government has a key role to play in initiating, guiding, coordinating and sustaining actions. It sets out the visions and pathways to provide a clear direction. It can set the direction for innovation through policy signals such as environmental regulations that drive efficiency improvements and stimulate innovation as well as phasing out technologies and practices that hamper progress. It can also manage the inevitable inequities and conflicts that can arise in transition processes and engage with the public to build support for change.

Working with the EIP25, government now needs to provide that clear sense of direction, set out the path towards environmental outcomes, what policies and actions are meant to contribute and how they come together to do so.

This is a period of significant and ongoing legislative, policy and operational developments. Looking ahead to 2030, our message to government is consistent. Government needs to speed up and scale up efforts and actions must be shown to stack up to make achieving targets and commitments a reality. Progress has been too slow so plans need to catch up and then keep up with the environmental challenges now faced.

The EIP25 must inspire action and drive change across government. In turn government must catalyse action across society. It needs to provide the leadership and concerted effort required to achieve the significant environmental improvements to which it is committed and are so urgently needed.

I. Setting the scene



Chapter 1: Setting the scene

The Environment Act 2021 (EA21) established a governance framework for the environment. It has four key provisions: an oversight body, the Office for Environmental Protection (OEP); statutory targets set under the EA21 (EA21 targets and interim targets); a long-term Environmental Improvement Plan (EIP) that must set out the steps government intends to take to significantly improve the natural environment; and an Environmental Principles Policy Statement that is applicable across central government.

The EA21 introduced statutory reporting requirements. Government must prepare Annual Progress Reports (APRs) on the implementation of the EIP. These reports must consider improvement in the natural environment and progress towards any EA21 targets and interim targets.

We, in turn, make our independent assessment of government's progress during the annual reporting period in improving the natural environment in accordance with the EIP and towards meeting EA21 targets and interim targets. We must consider government's APR for that period and the data published by government that relate to that period, along with any other reports, documents or information we consider appropriate.

Our report is laid in Parliament in response to government's APR within six months of the APR's publication. Government must then respond to our report and lay before Parliament a response no later than 12 months after our report is laid.

With this report, we provide our assessment of government's progress in the annual reporting period from April 2024 to March 2025 in response to government's APR, which was published on 14 July 2025.

1.1. The context for achieving environmental goals

Government's response to our 2023/2024 progress report stated that 'the UK government's number one mission is to kickstart economic growth. We know that the natural resources that underpin our economy are finite and under increasing pressure. The natural environment is amongst our most valuable national assets'.¹

In 2022, the total asset value of natural capital in England was an estimated £1.4 trillion, with the total value of ecosystem services estimated to be £44 billion.⁴ However, just like education and health, nature is more than an economic good as many value its very existence and recognise its intrinsic worth.⁸

The ecosystem services nature provides are at risk from its continued degradation. This has a direct impact on people's prosperity, health and wellbeing. It has been estimated that deterioration in the natural environment could slow economic growth resulting in UK gross domestic product (GDP) being 6% lower than it would have been otherwise by the 2030s.² In their response to the House of Commons Environmental Audit Committee report on the role of natural capital in the UK's green economy, government acknowledged that the decline of nature poses a material risk to the economy.⁹

The UK is one of the most nature depleted countries in the world and has one of the lowest rates of nature connectedness.³ In 2022, an estimated 20 million people in England gained health benefits from recreation in nature. The annual economic value of this service was estimated at £6 billion.⁴

The latest assessment of the UK's climate shows that the last three years have been in the UK's top five warmest on record.¹⁰ People are directly affected by increased rainfall and flooding. They are also affected by heat events which lead to increased mortality. Nature contributes to the regulation of urban heat and the annual economic value of this cooling service in 2022 was £824 million. The importance of this service to people and its economic value will continue to increase as the number of hot days (28 degrees Celsius and above) increases with climate heating.

Air pollution is responsible for an estimated 26,000 to 38,000 early deaths in England, with a UK-wide economic burden of £27 billion.¹¹⁻¹³ In 2002, nature removed almost 1.4 million tonnes of pollutants from the air with the annual economic value of the service in England estimated at £2.5 billion.⁴

These examples clearly illustrate the importance of the environment for prosperity, health and wellbeing. However, the situation in England is also influenced by global developments. The planetary boundaries framework identifies nine processes that are critical for keeping humanity safe and the natural world resilient. The latest assessment reported that since last year a further boundary – ocean acidification – has now been breached. Seven of the nine boundaries have now been transgressed confirming that human activities have pushed Earth beyond the safe operating space for humanity.¹⁴

The United Nations Environment Programme has continued to warn of the triple planetary crises of climate change, nature and biodiversity loss and pollution. In addition, they have recently highlighted that the world is on the verge of a 'polycrisis' where global crises are not just amplifying and accelerating but also appear to be converging. The triple planetary crises are feeding into economic, geopolitical and social crises such as conflict for territory and resources, displacement and deteriorating health.⁵

In the UK, the environment is largely absent from discussions of security which centres around defence and deterrence. However, the National Risk Register which focuses on acute risks which are discrete events requiring an emergency response contains 89 risks of which 14 are categorised as natural and environmental hazards.¹⁵ The Chronic Risks Analysis which focuses on long-term challenges identifies climate change, biodiversity loss, increasing competition for critical materials and pollution as having cascading, compounding impacts which will amplify threats to national security, the economy, communities and way of life.⁶

However, in the same way that these challenges are interconnected and the effects are compounded when linked, so are the effects of solutions.

Tipping points create interconnected risks that are characterised by irreversibility, uncertainty and potential for cascading effects across natural and human systems. However, positive tipping points that propel societies towards low-carbon, resilient development and inclusive prosperity can be triggered through deliberate action.⁷

As the majority of environmental pressures are linked to the systems that meet society's needs for food, energy, mobility and the built environment, understanding system interactions can create opportunities for positive cascading effects across societal systems.

Change is happening at speed and urgent action is required to change environmental trends and navigate these challenges. This includes harnessing sufficient public support

for policies to catalyse action across society and making the desired change the most affordable, accessible and attractive option.⁷

Nature is not a blocker to economic growth – it is essential for prosperity. Nature restoration can positively tip degraded systems back to health, securing this vital national asset on which so much depends.

1.2. Government's environmental targets, goals and commitments

Government has a duty to meet long-term environmental targets set under the EA21. Currently, there are 13 targets covering air quality, biodiversity, water and waste. The most immediate target is to halt a decline in species abundance by the end of 2030, with other target deadlines ranging from 2038 to 2050.

The EIP 2023 (EIP23) was published in January 2023 under the previous government with a vision to leave the natural environment of England in a better state than it found it. In September 2024, government announced it would undertake a rapid review of the EIP23 with findings of the review published in early 2025 followed by a revised EIP in spring 2025. We provided government with advice on the revision of the EIP.¹⁶

Government's response to our 2023/2024 progress report stated that the EIP will be a clearer, prioritised plan for achieving environmental outcomes. It also stated that 'the revised EIP will set out the approach to improving the natural environment we need to take to grow our economy, build 1.5 million homes, boost food security and meet our environment and climate targets with nature as the enabler, driver and protector of growth'.¹

The revised EIP (EIP25) was published on 1 December 2025. It contains a set of updated EA21 interim targets with a deadline of 2030. Previously there were 21 interim targets with deadlines ranging from 2027 to 2032, with the majority set for 2028. As the EIP25 was not published during the annual reporting period or in time for us to consider it in our assessment, the EIP23 and EA21 targets and the previous set of interim targets still provide the overall structure and content against which we assess progress during the annual reporting period ([Figure 1.1](#)). However, our assessment of prospects and opportunities for improvement also reflects developments since March 2025.

Policy developments across the EIP goals are highlighted in the relevant chapters. Developments of particular note are the independent review of Defra's regulatory landscape (the Corry Review) published in April 2025 and the establishment of an Independent Water Commission which undertook a comprehensive review of the water sector and its long-term planning.

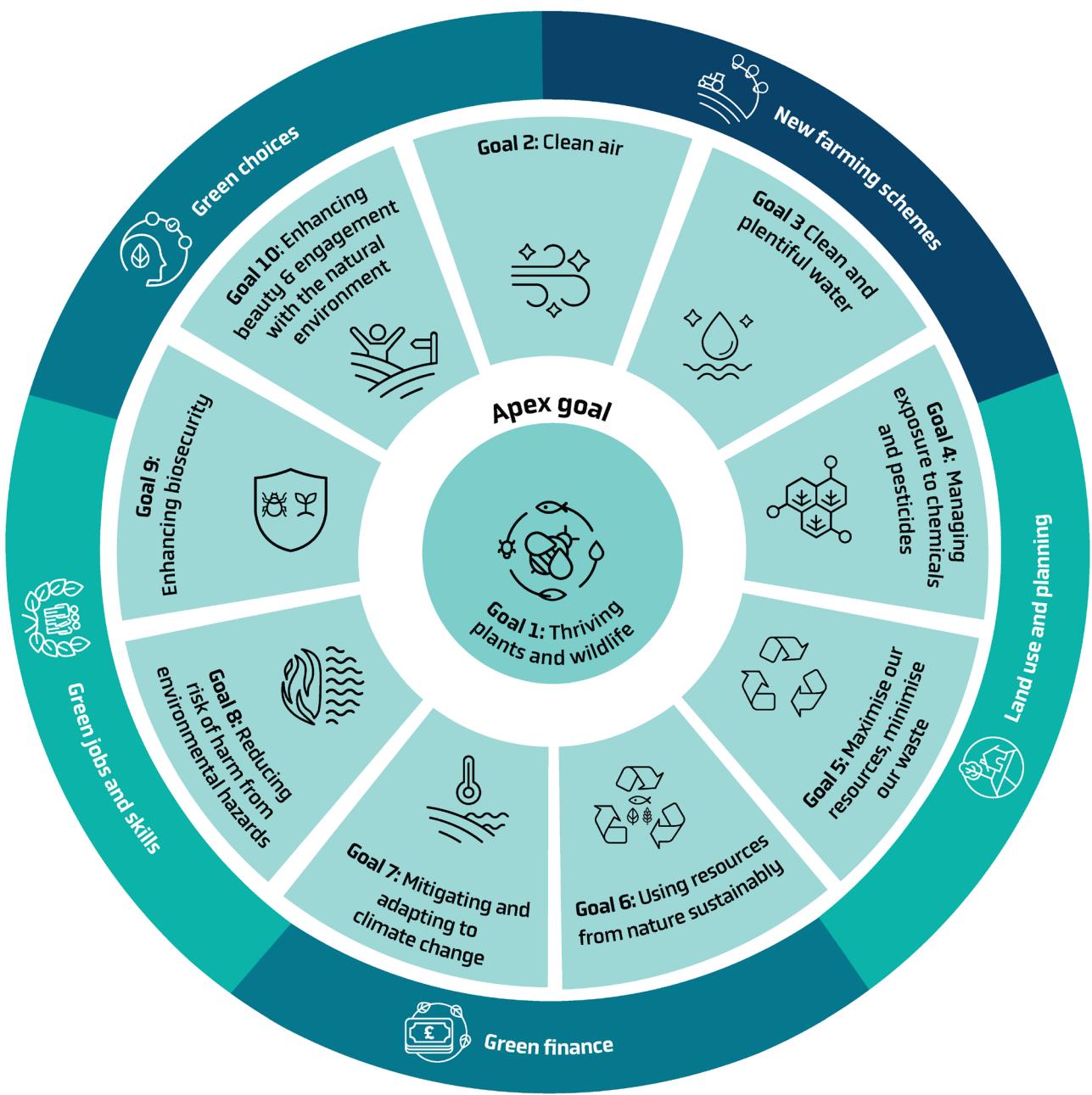


Figure 1.1. The Environmental Improvement Plan 2023 goals and selected cross-cutting themes

1.3. Our assessment approach

Our assessments are based on available knowledge, evidence and analysis. We take an integrated approach to provide an assessment of issues within and across environmental domains, across geographic scales, and over past, present and future timescales (Figure 1.2).

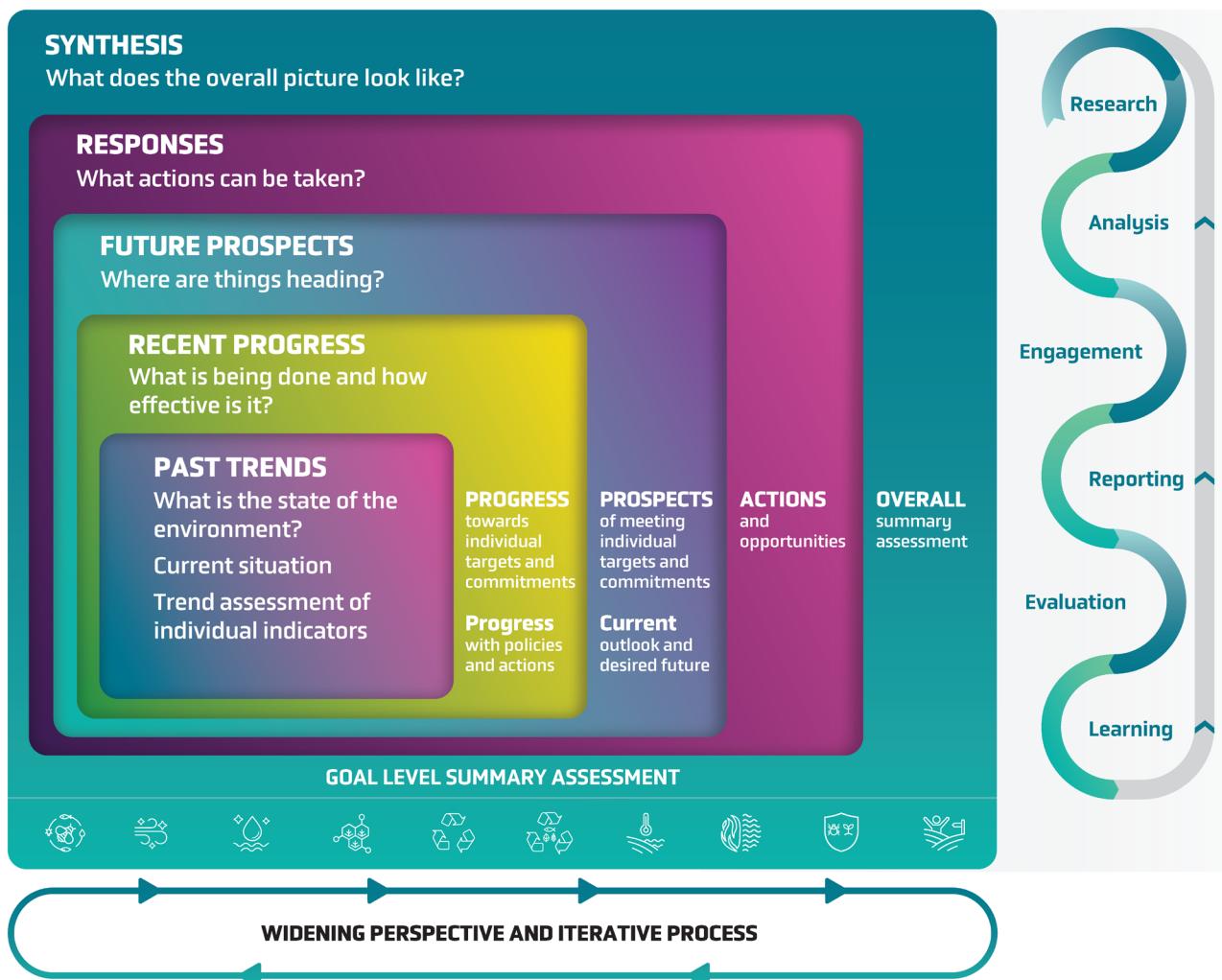


Figure 1.2. The Office for Environmental Protection's integrated assessment approach

Our assessment of past trends mainly reflects developments over the five most recent years of data. Our assessment of progress focuses on the annual reporting period. Our assessment of prospects looks ahead along the timeframes of government's ambitions, targets and commitments.

We use summary assessments throughout the report to present analyses in a concise, accessible way. We assign assessment ratings to past trends, progress within the reporting year, and prospects of meeting ambitions, targets and commitments. The different timeframes mean they can have different assessment ratings. For example, changes in long-term environmental trends are unlikely to reflect progress within the reporting year. In addition, good or poor progress within one reporting year will inform, but may not change, our assessment of prospects over longer timeframes.

Our assessment aims to support decision making, so we are transparent about our assumptions, uncertainties and the quality of evidence and include this in our summary assessments.

We have assessed progress and prospects in relation to EA21 targets and interim targets and improving the natural environment in accordance with the EIP23. The report is structured in four parts, as outlined below.

In **Part I Setting the scene**, we describe the overall policy framework and wider context for achieving EA21 targets and interim targets and EIP23 goals. We introduce the structure and overall approach for our assessment.

In **Part II Progress and prospects**, we provide an integrated assessment of each EIP23 goal area. We assess environmental trends and respond to the APR 2025 by assessing progress during the annual reporting period towards individual EA21 targets and interim targets and EIP23 targets and commitments as well as the prospects of achieving them. For each goal area, we then assess the overall progress and prospects, consider how progress could be improved and provide recommendations on how this could be achieved. In addition, we analyse the selected EIP23 cross-cutting themes of nature-friendly farming, green finance and green choices.

In **Part III A focus on improving nature**, we follow up on one of last year's key recommendations on reconciling competing demands on land and sea with a focus on land use policy coherence.

In **Part IV Taking stock**, we bring together the goal level summary assessments to provide an overall picture of trends, progress and prospects across EA21 targets and EIP23 goals, drawing out common themes. We also assess progress in relation to the recommendations we made in our previous progress reports.

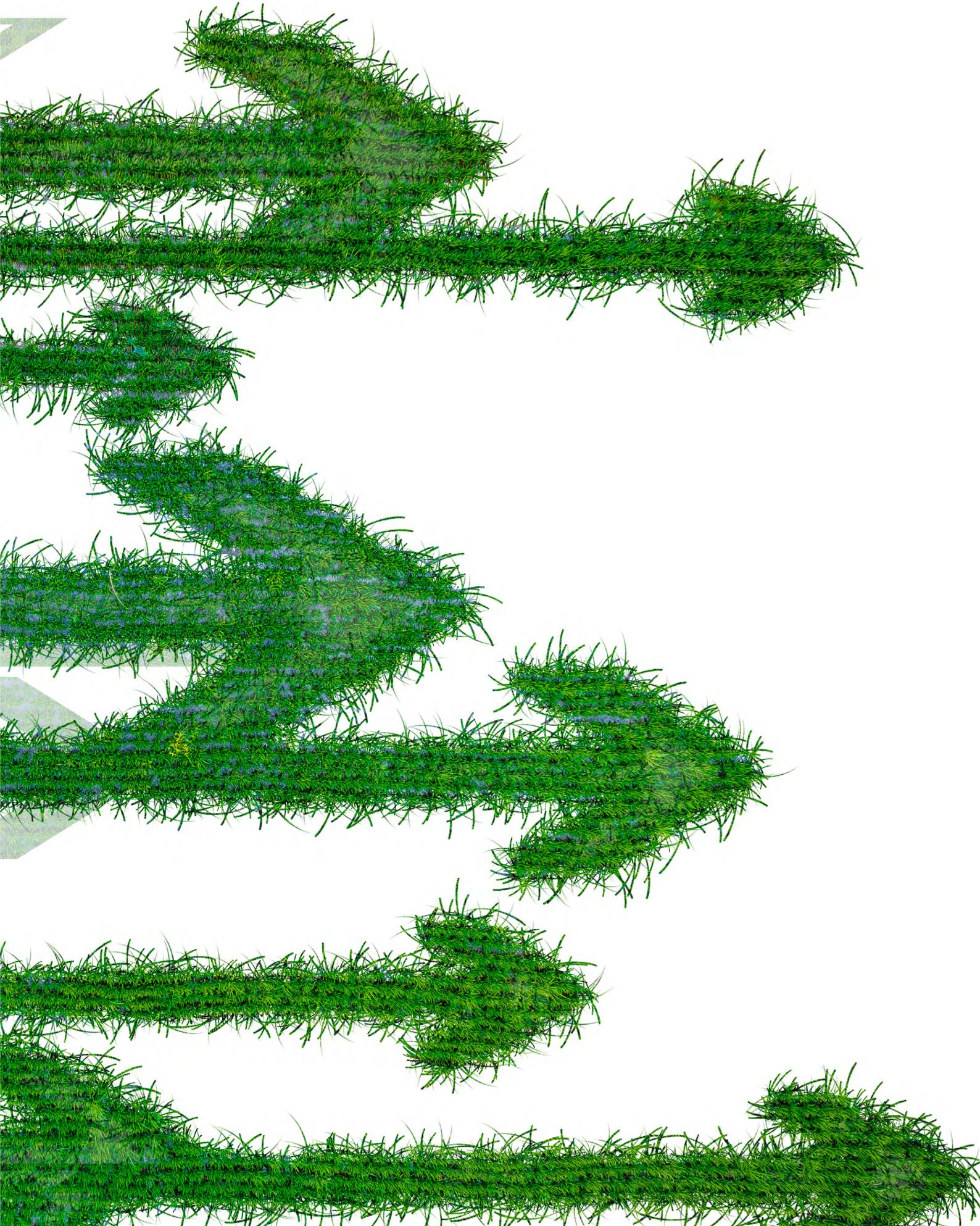
We are committed to transparency and accessibility. This report is accompanied by a Methodological Statement, which sets out in detail the data sources we have used, our analytical methods and the stakeholder engagement we have undertaken. In the Methodological Statement, we identify constraints upon our analyses and set out the areas that will be developed in future.

We have voluntarily adopted the Code of Practice for Statistics¹⁷ which is administered by the Office for Statistics Regulation and aims to ensure that statistics have public value, are of high quality and are trustworthy. Our statement of compliance with the Code is provided alongside the Methodological Statement.

In developing our assessment, we consider government's APR, and data published by the Secretary of State that relate to the annual reporting period but also look beyond this. In our view, the APR 2025 provides a limited overview of actions and plans and does not assess how actions have contributed to progress. Our scrutiny of progress continues to be hampered by the lack of detailed information made available by government. Across many EA21 targets and interim targets and EIP23 targets and commitments, this lack of detailed information about delivery constrains our ability to assess the current and future effects of policy measures and actions.

Our assessment provides a picture of the current situation within a changing political and policy context. It forms part of our contribution to environmental protection and the improvement of the natural environment in England. We will continue to evolve our assessment approach and our next report on progress during the annual reporting period April 2025 to March 2026, will reflect the EIP25 and its early implementation.

II. Progress and prospects



Introduction

In this section, we present our assessment for each of the 10 goals of the EIP23. The data sources and methods we have used are set out in the Methodological Statement. When we refer to targets and interim targets, we mean either EA21 targets and interim targets or other targets set out in the EIP23 unless specified otherwise.

There are five elements to our summary assessments: trends, progress towards targets and commitments within the annual reporting year, prospects of meeting targets and commitments, an overall table, and an account of progress on our recommendations.

To summarise environmental trends and whether change is for better or worse, we use a red-amber-green (RAG) symbol and directional arrows ([Table II.1](#)). The arrows indicate the direction of change, so we show improvement by either a downward arrow (for example, a decrease in the emission of air pollutants) or an upward arrow (for example, increased tree cover). Where we have not made an assessment due to the lack of a time series, we use a grey circle. Where data are not available, we use a grey cross.

In general, change is assessed over a five-year period, and the percentage increase or decrease assessed using a 3% threshold. Any variation from this approach is specified in the Methodological Statement. This is in line with the general approach taken across government and by the Joint Nature Conservation Committee (JNCC). This year we also measure statistical significance. This determines whether the most recent year of data can be distinguished from variability in the preceding five data points and therefore defined as a statistically significant change.

Table II.1. Indicator trend assessment categories

Icon	Trend category	Trend direction	Assessment of change
	Improvement	Increasing	Positive developments more prevalent
	Improvement	Decreasing	Negative developments less prevalent
	Little or no change	No change	No change for better or worse
	Deterioration	Increasing	Negative developments more prevalent
	Deterioration	Decreasing	Positive developments less prevalent
	Not assessed	Single data point, or time series too short to adequately assess progress	Only the current state can be evaluated
	Not assessed	No appropriate data to assess progress	Represents a major data gap

To summarise progress towards individual targets at EIP23 goal level and recommendations, we again adopt a RAG approach. Green indicates good progress; amber shows a mixed picture, and red means limited progress. If we have not been able to assess progress – for example, because of a lack of available evidence – we have rated this as not assessed and marked it as grey.

We use the same system to summarise prospects of reaching individual targets and EIP23 goals. Green indicates that prospects of meeting ambitions, targets and commitments are largely on track; amber means they are partially on track, and red largely off track. Again, if we have been unable to make an assessment, it is marked as grey (Table II.2).

The overall summary table is based on a combination of available evidence and expert judgement. It provides a summary of past trends, progress and overall prospects of meeting targets and commitments for each goal area. It also provides an assessment of the robustness of the evidence base.

Table II.2. Goal-level summary assessment methodology (adapted from EEA¹⁸).

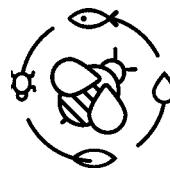
Component	Assessment approach	Assessment rating	
Past trends	Assessment of trends is based on available indicators and other data as observed	Green	Improving trends dominate
		Amber	Trends show a mixed picture
		Red	Deteriorating trends dominate
		Grey	Not assessed
Progress in the annual reporting period	Assessment of progress is based on government's APR, data published by the Secretary of State that relate to the reporting period and any other reports, documents or information we consider appropriate. It is informed by progress towards individual targets and analysis of whether actions are comprehensive (they cover the most important issues), convincing (their development and delivery are high-quality) and coherent (they work well together)	Green	Good progress
		Amber	Mixed progress
		Red	Limited progress
		Grey	Not assessed
Overall prospects of meeting ambitions, targets and commitments	Assessment of the prospects of meeting selected targets (including EA21 targets and interim targets) and commitments is based on government's APR, data published by the Secretary of State that relate to the reporting period, distance to target assessments, target detailed evidence reports and impact assessments, other assessments and information, including calls for evidence, policy evaluation and expert judgement	Green	Largely on track
		Amber	Partially on track
		Red	Largely off track
		Grey	Not assessed
Robustness	Assessment of the robustness of the evidence base, identifying key gaps and uncertainties and indicating the degree of expert judgement used.		

Chapter 2:

Thriving plants and wildlife



Chapter 2: Thriving plants and wildlife



2.1. Summary assessment

Nature is severely depleted. Although government has reaffirmed its commitment to tackling biodiversity loss and climate change, competing priorities are growing. Nature restoration is essential to achieving government's priorities of planning and regulatory reform to support its ambition of a win-win for both growth and nature.

There are continuing signs that the overall downward trajectory in England's species abundance has levelled out, although important species continue to decline. The opportunity to effect further change ahead of the 2030 target has now largely passed but with a demanding target to reverse the decline by 2042, this is no time for complacency. Other environmental trends continue to deteriorate, particularly in the marine environment and in the condition of protected sites on land.

Progress on environmental land management schemes has been affected by abrupt changes in delivery. Progress across wider actions and policies essential to nature's recovery remains slow, especially in the marine environment. Despite some progress, a fully resourced and timebound delivery plan to achieve or maintain Good Environmental Status of UK marine waters remains lacking.

Government remains over reliant on a handful of policies and lacks strategic plans to achieve multiple outcomes. Although frameworks and strategies like the UK Marine Strategy, Land Use Framework and Local Nature Recovery Strategies are emerging, they are delayed and lack the necessary status to facilitate large scale change.

However, government can still maximise the prospects of reaching long-term targets by changing course and setting out sufficiently defined, ambitious, and time-bound plans and interim targets in the Environmental Improvement Plan 2025 and implementing them effectively.

Table 2.1. Thriving plants and wildlife – summary assessment

Past trends	The overall abundance of species in England appears to be stabilising, but trends for some species remain negative. The decline in the abundance of wild birds continues. Trends in the marine environment and protected sites on land are negative.	Trends show a mixed picture
Progress in the reporting period	ELM scheme participation has grown substantially over the annual reporting period, but issues with delivery effectiveness persist. Broader policy progress is limited, especially for marine environment.	Mixed
Overall prospects of meeting ambitions, targets and commitments	Opportunities to maximise nature recovery in the long-term have not been realised. The EIP25 provides an opportunity for reset. However, there is a continued lack of urgency in developing and implementing detailed delivery plans – which are necessary to direct effective recovery and balance competing priorities.	Largely off track
Robustness	The assessment has primarily used publicly available evidence, OEP commissioned research and expert judgement but for marine areas in particular, limited data quality has constrained the analysis.	

2.2. Context and commitments

Biodiversity is essential to long-term sustainable economic prosperity and sustaining human health and wellbeing. Government is revising the EIP to update its plan for significantly improving the natural environment. The role of nature's recovery is nuanced in government's Plan for Change and five missions, in particular to 'kick-start economic growth' and to 'make Britain a clean energy superpower'.¹⁹

The independent review of Defra's regulatory landscape, led by Dan Corry, published in April 2025 (the Corry Review) found it outdated, inconsistent, and highly complex.²⁰ The Corry Review emphasised the need for a 'radical repositioning and repurposing of environmental regulation' to better serve nature and economic growth.

Government has launched a range of initiatives to support its Plan for Change and consider the findings of the Corry Review. This includes acting on its commitment to development as a driver for growth. In 2024, government consulted on and updated the National Planning Policy Framework.²¹ In December 2024, it published a number of planning reform working papers, including on development and nature recovery.²² Following this the Planning and Infrastructure Bill was introduced in March 2025.²³

The Planning and Infrastructure Bill is partly intended to achieve a 'win-win' by accelerating development, while contributing to nature's recovery. It introduces a Nature Restoration Fund and Environmental Delivery Plans (EDPs), to be administered by Natural England. These aim to enable a different strategic approach to complex environmental issues such as excess nutrients.

The Environmental Principles Policy Statement, which requires consideration of integrating priorities, preventing harm, and rectifying pollution at source, is set to play a key role in shaping EDPs. Government has signalled that the duty will apply at ministerial sign off but will also be applied by Natural England during their development.^{24,25}

These new initiatives interact and overlap with existing policies such as Biodiversity Net Gain (BNG) and with emerging nature markets.²⁶ Mechanisms for strategic compensation are being developed for the marine environment, to enable the expansion of offshore wind through the Offshore Wind Environmental Improvement Package.^{27,28} The Marine Recovery Fund is a separate initiative to the Nature Restoration Fund, where due regard must also be had to the Environmental Principles Policy Statement.²⁹

The Planning and Infrastructure Bill also proposes changes that address alignment of the planning system with Local Nature Recovery Strategies (LNRSs).³⁰ These are still in development across many Responsible Authority areas. Proposals include how Spatial Development Strategies and EDPs will have to consider LNRSs.

Marine planning in England is a statutory process set out by the Marine and Coastal Access Act 2009. This system guides public authorities on how to carry out their duties and make licensing decisions in a way that supports achievement of the objectives of the UK Marine Policy Statement (MPS).³¹ The MPS is important for the marine environment as it frames regional Marine Plans, which are tools used to inform decision making.

The Marine and Coastal Access Act 2009 also provides for Marine Conservation Zones to be designated, which alongside UK national site network designations (Special Areas of Conservation (SAC) and Special Protection Areas (SPA)) constitute England's 'Marine Protected Areas network' (MPAs).³² Pressures on the network are managed primarily

through the marine licensing and planning regime and management measures for fishing implemented through byelaws.³³

Government has set what we consider to be apex targets for biodiversity: the Environment Act 2021 (EA21) species abundance target to have halted the decline in species abundance by 2030, and the EA21 long-term target to have reversed that decline by 2042. Marine species are largely absent from the lists currently specified for the indicator for both EA21 species abundance targets.³⁴

For the marine environment we consider the apex target to be the requirement under the Marine Strategy Regulations 2010 (MSR) to take the necessary measures to achieve or maintain Good Environmental Status (GES) of marine waters by 31 December 2020.³⁵ A three-part UK Marine Strategy (UKMS), published under MSR, forms the national framework for assessing, monitoring and taking action to achieve marine GES.

Wider targets and commitments underpin EA21 species abundance targets. The EIP23 commits to restore 75% of protected sites to favourable condition by 2042.³⁶ The EA21 sets a 2050 target for woodland and trees outside woodland, so that by the end of 2050 at least 16.5% of all land in England is covered by woodland and trees outside woodland, and a long-term target for the restoration or creation of over 500,000 hectares of wildlife-rich habitat between 2023 and 2042. These targets and commitments are also likely to support 30 by 30 commitments (Global Targets 2 and 3 of the Kunming-Montreal GBF, adopted in December 2022) and the EA21 long-term target for a reduction in species' extinction risk by 2042, compared to 2022.

In addition to achieving or maintaining GES in marine waters, there is an EA21 target for the condition of protected features in relevant MPAs.^{33,37} By 31 December 2042, the number of protected features in favourable condition must not be less than 70% of the total number of all protected features within relevant MPAs, and all other protected features within relevant MPAs must be in recovering condition. Government had intended to put all management measures in place across MPAs by 2024, in order to achieve the MPA target for 2042.³² A new milestone has now been set for all measures to be in place by the end of 2026.³⁸

Nature-friendly farming remains essential to both nature recovery and broader environmental goals. EIP23 committed to ensuring that 65–80% of landowners and farmers adopt nature-friendly practices on at least 10–15% of their land by 2030. Recent statistics indicate a growing uptake of agri-environment schemes. However, the temporary pause of the Sustainable Farming Incentive in 2025 contributed to a significant decline in confidence among the farming community about their future.³⁹

The government's Food Strategy acknowledges that the current food system is failing to deliver food security and wider outcomes for health, the environment, and resilience.⁴⁰ To prevent environmental improvement and food production being in competition, it has announced the development of a 25-year farming roadmap aimed at addressing these objectives.⁴¹

2.3. Key environmental trends

Government published indicators of species abundance in England, as an official statistic in development.^{34,42} These statistics underpin both the 2030 target to halt, and the long-term target to reverse, the decline of species abundance by 2042. Together, the 1,176 species

in the index show a slight increase over the short-term (2018 to 2023). However, these changes are not statistically significant.

To help interpret changes in the species abundance data, Defra proposes two smoothing options (Figure 2.1). Both options dampen multi-annual variability to different degrees. Last year we highlighted that understanding progress towards the 2030 species abundance target could depend greatly on the option adopted.

The last consecutive years of data (2022 to 2023) illustrate this dependency. The change between two consecutive years (2029 and 2030) is how the EA21 2030 species abundance target will be assessed under the Environmental Targets (Biodiversity) (England) Regulations 2023 (Biodiversity Targets Regulations). Despite the slope generally flattening, when looking at the last two years, one of the two smoothing options shows an increase, while the other shows a decrease. If this were to happen between 2029 and 2030, the choice of smoothing options could potentially make the difference between achieving or failing to meet the target as specified in the Biodiversity Targets Regulations, irrespective of whether the overall objective of halting the decline had been achieved.

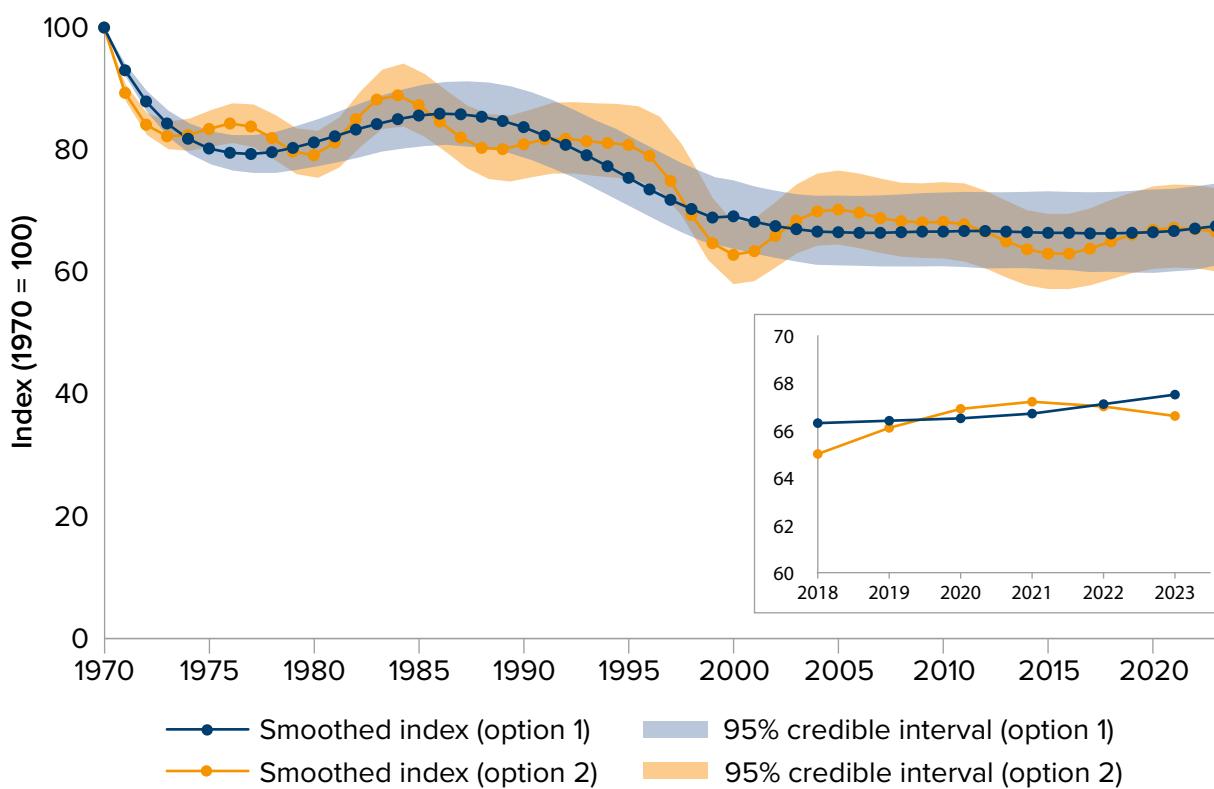


Figure 2.1. Change in relative abundance of species in England, 1970 to 2023, shown as a multi-species indicator with two smoothing options and with 95% credible intervals. Index values represent change from a baseline value of 100 in 1970.⁴³

We have previously stated that Defra needs to provide much greater transparency, scrutiny and stakeholder engagement to reduce risks and build consensus on a suitable approach to developing indicators of species abundance. The recent update, including detailed methods for smoothing the index, is a positive step. Our initial analysis of the methods shows that there is significant scope to increase confidence that the long term halt in species abundance has been achieved by 2030, as intended by meeting the legally binding target.⁴⁴

The eight taxonomic groups that make up the overall index show mixed trends. Trends for five of the eight groups suggest decline over recent years, although demonstrating statistical significance is challenging. More than half the species in the overall index are in the three taxonomic groups (moths, mammals and vascular plants) that exhibit a potential increasing trend.

The relative abundance in England of priority species – a subset of the overall species abundance index, identified as the most threatened or declining – shows a potential decline in the short-term, although the change is not statistically significant. The wild birds trend for England shows a continuing decline of 7% between 2019 and 2024. Farmland birds show the largest declines of 11% in the same period.⁴⁵

To strengthen monitoring of commitments under the Kunming-Montreal Global Biodiversity Framework (Kunming-Montreal GBF), the Joint Nature Conservation Committee (JNCC) published a review of the alignment of the UK Biodiversity Indicators to the underpinning monitoring framework.^{46,47} The JNCC found most UK Biodiversity Indicators align well with the framework's goals and targets. However, gaps remain in climate adaptation, public engagement, and biodiversity funding. Our own analysis in Chapters 8, 11 and 12 further demonstrate these gaps.

A growing and resilient network on land and water that is richer in plants and wildlife

It is important to look at wider trends to understand progress towards the EA21 long-term target to reverse the decline of species abundance. Of these, four show little or no change, while two trends show an improvement and another a decline. This year there is an additional trend showing an improvement.

The extent of protected areas on land and water needs to increase if these areas are to support the UK's 30 by 30 commitments. There have been further increases in the extent of National Nature Reserves, though it is unclear if these provide the required protections to achieve 30 by 30 commitments. The extent of Sites of Special Scientific Interest (SSSIs) on land has shown little or no change between 2018 and 2023.⁴⁸

Outside of SSSIs, there is limited consolidated monitoring available to track the progress needed to achieve both 30 by 30 commitments. Our analysis of headline trends demonstrates some progress. For example, our indicator on land cover that is more likely to support large-scale nature-friendly habitats shows an increase between 2019 and 2024.

The area of woodland has increased between 2019 and 2024. There have been notable increases in tree planting, and the changes, while small in area compared to the total area of woodland, are statistically significant. However, the changes are not sufficient to change the rating of little to no change (see the Methodological Statement Annex for more information). The higher rate of planting has been sustained since 2024. The Annual Progress Report (APR 2025) reports planting of 5,765 hectares of woodland and 888,000 trees outside woodland in England between April 2024 and March 2025. This is equivalent to a total of 7,164 hectares of tree canopy.⁴⁹

The area of land under agri-environment schemes increased significantly from 2019 to 2024, with about two thirds of agricultural land now included in a scheme. While Defra has provided more detailed estimates,⁵⁰ the adoption of planning versus ecological measures are not readily distinguished, making it challenging to evaluate progress towards the 2030

commitment for nature-friendly farming. Additional information on scheme types and quality would help assess their contribution to EA21 species abundance targets, which is further explored in [Chapter 12](#).

A growing and resilient network at sea that is richer in plants and wildlife

Our assessment of trends for the marine environment remains similar to previous assessments. The proportion of the UK marine area designated as a nationally and internationally important protected area increased by 55% between 2019 and 2024 to 38.2% of UK waters.⁵¹ This indicator does not capture site condition, or the proportion that are in effective management.

Government estimates that 44% of designated features in English MPAs were in favourable condition in 2022, and that 60% of MPAs have ‘some management in place to protect features against damaging fishing activity’.⁴⁹ There are no historical data to allow for a trend assessment. An MPA monitoring and assessment strategy will not be in place until at least 2028, when this metric will be updated.⁴⁹ Overall, the state of data and monitoring of MPAs is still limited. For example, under current funding arrangements, monitoring at the ‘desired frequency to detect change’ is deemed to be feasible for just nine of 76 UK offshore MPAs.³³

In terms of the wider marine environment, new evidence reaffirms that collective trends point to declining biodiversity and continued habitat degradation. The draft update to the UKMS Part One assessment suggests UK waters have met GES for two of 15 descriptors and ecosystem components.⁵² This represents an overall deterioration in the state of the marine environment compared to the previous UKMS cycle, as the 2019 assessment found GES had been achieved for four descriptors (see Methodological Statement Annex).^{53,54}

Looking at trends for specific species and habitats, an index of 11 breeding seabird species in England sharply declined by 21% between 2019 and 2024.^{45,55} UK level data show a similar trend, with 49% of species formally categorised as threatened with extinction.⁵⁶ As top predators, seabirds are widely regarded as a valuable indicator species of marine ecosystem health.^{57,58} For marine mammals, seal and cetacean populations show strong regional variation in trends, while the condition of benthic habitats continues to deteriorate overall.⁵⁹

In terms of trends across key pressures, Natural England considers that marine ecosystems remain under significant threat from climate change impacts, land and sea-use changes, and non-indigenous species.⁶⁰ The proportion of fish stocks exploited at or below Maximum Sustainable Yield rose by 27% from 2015 to 2020, yet in 2025, 52% of UK Total Allowable Catch limits did not align with scientific advice.^{61,62} Although some fish stocks have improved, the marine fish descriptor falls short of GES.⁶³ Data show increasing trends in underwater noise and seafloor litter, and overall litter levels remain high.^{64,65} The GES status for non-indigenous species is uncertain due to limited monitoring and lack of agreed thresholds, a challenge shared across many descriptors.

A summary assessment of the key trends we assessed is provided in [Table 2.2](#).

Table 2.2. Thriving plants and wildlife – summary assessment of key trends

Indicator	Indicator trend	Trend time period
Relative abundance of species in England		2018–2023
Threat of extinction to UK species		2018–2023
Condition of Sites of Special Scientific Interest (that are in favourable or unfavourable recovering condition)		2019–2024
Extent of land cover more likely to support nature-friendly habitat		2019–2024
Area of woodland in England		2020–2025
Area under agri-environment schemes		2019–2024
Extent of UK area protected for nature on land and water		2019–2024
Achievement of marine Good Environmental Status		N/A
Condition of Marine Protected Areas		N/A
Extent of UK area protected for nature at sea		2019–2024

2.4. Progress towards ambitions, targets and commitments

Overall progress in the annual reporting period towards achieving a growing and resilient network of land, inland waters and sea, that is richer in plants and wildlife has been mixed. Progress has been good for two EA21 targets, mixed for three EA21 targets and two further commitments. Progress has been limited for one EA21 target and three further commitments. A summary assessment of the targets and commitments we assessed progress towards is provided in [Table 2.3](#), with further detail provided below.

Government has made progress in realising some of the opportunities identified in our 2023/2024 progress report – particularly around providing timely, transparent and accessible evidence to enable assessment and evaluation of nature's recovery. Progress has been made in developing and publishing further details on the index, which will track progress towards the EA21 species abundance targets.

Progress addressing our previous recommendations, in particular developing detailed coherent delivery plans where gaps exist and further steps in the form of EA21 interim targets are a significant gap. Both are urgently needed to achieve targets and commitments. LNRSs should play an important role in addressing this gap. We reported in June 2025 on the role of LNRS in contributing to nature recovery commitments in England, and made a number of recommendations for how prospects could be improved.⁶⁶

The intention was to publish all LNRSs by March 2025. However, as our report and the APR 2025 indicate, only two had been published by this date. This is poor progress. These are important strategies that enable local delivery of the apex target, as well as wider targets and commitments. Government also published an update to the overdue UKMS Part Three Programme of Measures.⁶⁷ While the update is welcome, in our view, it does not provide the fully evidenced, resourced and time-bound delivery plan that is urgently required in order to deliver GES as soon as possible.

BNG became mandatory for most developments under the Town and Country Planning Act 1990 in early 2024, with small sites also becoming subject to BNG requirements in April 2024. BNG is an important programme for preventing further harm to the natural environment from development, and for providing a small but meaningful gain in biodiversity.

Government launched a consultation in May 2025 on improving the implementation of BNG for minor, medium and brownfield development.⁶⁸ It also began a consultation on how BNG will apply to nationally significant infrastructure projects from May 2026.⁶⁹

We responded to the consultation on minor, medium, and brownfield developments.⁷⁰ While supporting the aim to enhance wildlife habitats post-development, we advised Defra to proceed cautiously with proposed reforms, especially narrowing the regime to exempt small sites. The rationale and potential impacts—on BNG actions, the unit market, and environmental outcomes—are unclear. Without sufficient evidence, these changes risk unintended negative consequences.

Important actions taken over the annual reporting period are not reported in the APR 2025. This means it presents an incomplete picture. For example, it does not demonstrate progress made against the opportunity for government to clearly articulate how national targets and commitments align with international commitments. The UK national biodiversity strategy and action plan, published in February 2025 was such an opportunity. It aims to summarise the UK response to the Kunming-Montreal Global Biodiversity Framework.⁷¹ Our assessment incorporates broader evidence to provide a more comprehensive picture than given in the APR.

A growing and resilient network on land and water that is richer in plants and wildlife

Species abundance and extinction risk

Last year we recommended that government should identify and mitigate the risks associated with a high dependency on a small number of key programmes, such as nature-friendly farming. Defra has developed a biodiversity policy contribution framework that assesses the importance of existing policies and actions, and the potential for them to contribute further towards key targets and commitments.

Defra has also further developed indicative pathways towards the EA21 biodiversity targets, established under the Environmental Targets (Biodiversity) (England) Regulations 2023. The development of these pathway tools is ongoing, but it is important to consider how risks to delivery can be mitigated, and to identify the need for new policies and actions to address potential shortfalls.

The APR 2025 presents a wider range of actions towards the Lawton Principles of ‘more, bigger, better, and joined’.⁷² We welcome this, but it does not demonstrate that the scale and pace of action is sufficient.

There has been further expansion of environmental land management (ELM), although this has been accompanied by the challenges of an abrupt temporary closing of Sustainable Farming Incentive. While progress is in the right direction, it remains unclear to what extent this expansion constitutes nature friendly farming. Moreover, there has been expansion of wider grant schemes, as well as increased monitoring and compliance with farming regulations. We assess this further in Chapter 13.

National Nature Reserve areas are being expanded by around 5.5%. However, this expansion is from a low base, and they do not afford the same level of protection as SSSIs. Reserves currently make up a small proportion of protected areas on land. SSSIs make up the majority of protected areas.⁴⁸

In our report on the implementation of protected sites laws, we found that too few SSSIs have been designated to achieve intended outcomes and that work to designate more has been slow and has now largely stalled.⁷³ No new SACs have been put forward for designation since 2013 and we found little evidence to indicate that Defra has been keeping the SAC network under review. Gaps in the SPA network were identified by JNCC in 2001 and 2016.^{74,75} In May 2025, JNCC published advice and options to address these gaps, including recommendations from the 2001 review that remain unimplemented.⁷⁶ These gaps in relation to SPAs form part of our ongoing investigation outlined further below.⁷⁷

Government allocated £13 million to Protected Site Strategies to create and implement plans for priority sites.⁴⁹ This allocation is welcome. Yet almost four years after the Environment Act provided the power to create statutory protected site strategies, they are due to be in place for less than 1% of SSSIs by the end of 2025. The success of these strategies will primarily be measured not in their development but in their implementation and outcomes.

This lack of scale and pace extends to wider programmes. The Natural England Species Recovery Programme delivers targeted action for threatened species with particular needs. Historic uplifts in the Programme have accelerated the delivery to protect threatened and priority species, with a direct link to achievement of the long-term EA21 species extinction risk target.⁷⁸ However, progress is mixed – not least because investment levels are still below those needed for threatened species.⁷⁹

Creating and restoring habitats

Progress towards the 2050 target for woodland and trees outside woodland (an EA21 target) in the annual reporting period has been good. Tree-planting rates have increased to the levels needed to achieve both the 2050 target for woodland and trees outside woodland, and the interim target to increase tree canopy and woodland cover by 0.26% of land area (equivalent to 34,000 hectares) by 31 January 2028. Last year, tree planting

increased to 7,164 hectares.⁸⁰ The England Woodland Creation Offer and the Woodland Creation Partnerships continues to drive a large proportion of planting. Options for agroforestry measures have also expanded through ELM.

Enabling mechanisms such the Woodland Creation Fast Track, the Forestry and Arboriculture Training Fund, the Tree Planting Taskforce as well as research funded by the Nature for Climate Fund further reduce risks to target delivery.⁸¹⁻⁸³ The Nature for Climate Fund has enabled spatial prioritisation of tree planting, to maximise planting the right tree in the right place, and determined low risk areas where delivery can be done at pace. The fund has also secured research and development to better understand and address the impact of climate change on trees.⁸⁴

In previous assessments, we identified the lack of a new or revised England Trees Action Plan beyond 2024 as a gap.⁸⁵ Defra has informed us that it has completed a large proportion of the actions in the Plan. However, this information is not captured in the APR 2025 or other publications. This makes it challenging for stakeholders to understand where they should act to have greatest impact. Lack of clarity around the long-term status of the Nature for Climate Fund also increases risks and uncertainty. We consider this further in Section 2.5.

Progress towards the EA21 long-term target for wildlife-rich habitat restoration or creation and the underpinning EA21 interim target is positive. Defra and Natural England have produced further evidence⁸⁶ that aligns with our own analysis and findings in section 2.3. Furthermore, the National Trust, which is a major landowner in England, published a strategy to boost the creation of nature-rich landscapes on 250,000 hectares of land across its UK estate. The strategy could provide a sizeable implementation pipeline of wildlife-rich habitats.⁸⁷

Defra's analysis estimates that 38,877 hectares of wildlife-rich habitats outside protected sites have been created or restored since 2023. This estimate is below the pace needed to achieve the EA21 interim target to restore or create 140,000 hectares of wildlife-rich habitats outside protected sites by 2028 compared to 2022 levels. However, it does not capture all schemes that would have contributed to the target. Also, the figure is expected to increase through wider evidence gathering, as well as the continued expansion of ELM schemes.

The sustainable management of woodland broadly has the potential to increase biodiversity and even contribute towards the restoration element of the EA21 long-term target for wildlife-rich habitat restoration or creation. However, in the short-term, this fell between 2020 and 2025. The reduction is statistically significant and equivalent to around 13,000 hectares of habitat.

Protected areas

The condition of protected sites has steadily deteriorated, despite a commitment in the EIP23 to significantly improve their condition. The APR 2025 shows that progress towards the EA21 interim target for 50% of SSSIs to have actions on track to achieve favourable condition, is keeping pace with government's projected trajectory. However, this trajectory expects progress to speed up. This means that progress needs to accelerate in the remaining period if the interim target is to be met by January 2028.

Progress against the EA21 interim target for all SSSIs to have an up-to-date condition assessment has been less than anticipated and is below the projected trajectory. This

is concerning, because up-to-date condition assessments are essential to inform the conservation, restoration and enhancement of these sites.

We assess progress in the annual reporting period towards the long-term commitment to restore 75% of protected sites to favourable condition by 2042, to be mixed. Further progress requires significant improvements in the implementation of England's protected site laws, in addition to progress against the EA21 interim targets.

Our separate, in-depth review details 15 recommendations to address four root causes of the lack of necessary progress: insufficient action from government to drive progress; insufficient investment to achieve intended environmental outcomes; a lack of incentives and engagement for owners and occupiers of protected sites; and gaps in evidence to inform and underpin decision-making.⁷³

In addition, we are separately investigating possible failures by Defra and Natural England to comply with environmental law in relation to the classification and adaptation of SPAs, and in respect of their general duties to protect and maintain wild bird populations, and to preserve, maintain and re-establish wild bird habitat. During our ongoing investigation we have found possible failures to comply with environmental law relating to the steps that are being taken to protect wild birds. These include the classification of SPAs on land and in the marine environment. We gave information notices to the Secretary of State and Natural England in June 2025 and will consider their responses in determining our conclusions and next steps.⁸⁸

We welcome the progress made towards establishing Protected Landscapes as a cornerstone of nature recovery. Defra published guidance on the Protected Landscape Duty, and announced forthcoming legislation to strengthen them.^{89,90} We also welcome the progress reporting towards the commitments set in the Protected Landscapes Targets and Outcomes Framework.⁹¹ Two years of data to assess progress is a limitation. However, we consider that the higher level of ambition shown across the commitments demonstrates the important role protected landscapes could play in delivering several EA21 targets and EIP commitments.

30 by 30

In our 2022/2023 progress report, we highlighted the need for government to transparently set out its international commitments and their relation to national targets and commitments. This includes clearly setting out what action it will take on – and how it will measure progress towards – both 30 by 30 commitments (Global Targets 2 and 3 of the Kunming-Montreal GBF, adopted in December 2022).

Despite progress made in the annual reporting period there are fundamental challenges ahead and we assess progress has been limited. With targets only five years away, policies to achieve them are still in development.

The APR 2025 contains two actions related to 30 by 30 commitments. First, the development of a vision for protecting and effectively managing 30% on land by 2030, and how it will measure progress.⁹² We considered this action in our 2023/2024 progress report and outlined need for clarity on achieving both commitments. This remains outstanding.

The second action, anticipated for 2025, relates to pilots that will inform a delivery strategy on land in England. We welcome this, but it has been three years since the adoption of the Kunming-Montreal GBF.⁹³

A further action is the development of the National Estate for Nature group bringing together England's most significant landholders from across the public, private and third sectors to deliver nature recovery at scale.⁹⁴

Another action is the publication of the UK National Biodiversity Strategy and Action Plan for 2030. This outlines a vision for achieving the 23 Global Targets of the Kunming-Montreal GBF.⁷¹ However, the online reporting tool for these plans refers to policies and actions that are out of date or superseded.⁹⁵ For example, the Species Survival Fund and Tree Action Plan have both lapsed. Furthermore, there remains ambiguity on what constitutes Other Effective area-based Conservation Measures for England.

A growing and resilient network at sea that is richer in plants and wildlife

Overall, progress over the annual reporting period in the marine environment has again been limited. The APR 2025 reports four actions providing an incomplete picture of actions taken.

Cross-cutting

Together, the three parts of the UKMS published under the MSR are designed to coordinate action across the UK. This provides the framework for assessing and monitoring the status of the UK's seas, and for putting in place the measures needed to meet GES across 15 descriptors and ecosystem components.⁹⁶

An updated UKMS Part One was due by the end of 2024. This statutory deadline was missed over the annual reporting period. An updated draft was consulted on in summer 2025, which is considered in our assessment of prospects.⁵² Government published an update to the UKMS Part Three programme of measures over the annual reporting period, more than three years after the statutory deadline.⁶⁷ Alongside missing the updated Part One deadline, this further reflects a culture of delay and apparent lack of urgency. The Part Three update does not clearly show how the measures and initiatives it identifies will stack up to achieve GES and does not reflect the increase in scale and urgency of action required to achieve it in the shortest possible time.

Through JNCC, the UK also played a key role in developing Regional Action Plans (RAP), defining actions for Oslo-Paris Convention (OSPAR) Contracting Parties to address key pressures for descriptors that have not met GES. A RAP was published for marine birds, and the UK announced it is collaborating with Norway to develop a benthic environment RAP, which will continue into 2026.^{38,97,98}

Marine Plans are another key component of the UK's policy framework. During the annual reporting period, the Marine Management Organisation (MMO) outlined proposals to engage stakeholders in developing the East Marine Plan—the first of the second-generation of marine plans.^{99,100} However, the overarching MPS is outdated and was deemed unfit for purpose by the Environmental Audit Committee.¹⁰¹ It overlooks the EA21 target for protected features in MPAs and the 30 by 30 commitments, while aiming to maximise oil and gas production, conflicting with the Clean Power 2030 Action Plan.¹⁰² Consequently, while updated ambitions are set out elsewhere, there is a risk the MPS does not provide clear

direction for the development of regional marine plans as they are not drawn together coherently.

The ongoing MPA network review and cross-government Marine Spatial Prioritisation Programme aim to better understand demands and pressures on the marine environment, to enable sustainable economic development alongside environmental recovery.^{101,103} The programmes could therefore be used to inform allocation of space through an updated MPS, however they have not yet produced publicly available tangible outputs and there is no clear timeline.

Protected areas

We observed limited progress over the annual reporting period towards the long-term EA21 target to ensure that not less than 70% of protected features in MPAs are in favourable condition, with the remainder in recovering condition by 2042, and the associated interim target. This is downgraded from mixed in our 2023/2024 progress assessment.

Pressures on MPAs are managed in multiple ways. Fishing is regulated separately to other sectors by the implementation of management measures through byelaws. The marine licensing regime, guided by Marine Plans, regulates activities such as construction and dredging.^{104,105} The supporting evidence for the EA21 target for the condition of protected features in MPAs assumed that ‘all pressures on features are removed by 2024’ through management measures.³² This milestone was missed.

The MMO and Inshore Fisheries and Conservation Authorities are implementing the management measures for fishing over four stages.¹⁰⁶ Stages one and two are complete. Stages three and four are not yet in force.^{107,108} Stage 3 measures were consulted on in June 2025, proposing to ban bottom trawling in 41 MPAs (covering 13% of England’s waters).¹⁰³ Government now expects measures to be in place by the end of 2026.³⁸ However, the pace of delivery remains slow which is considered in our assessment of prospects.

Regarding Highly Protected Marine Areas (HPMAs), the first three designations came into force during the 2023/2024 annual reporting period.¹⁰⁹ Five sites were deemed the minimum needed to demonstrate HPMA success, although decisions on designating further HPMAs will depend on the MPA network review.^{103,110} Over the annual reporting period government consulted on a byelaw to ban anchoring at one HPMA, but timelines for implementing byelaws—including prohibiting fishing at all three sites—remain unclear.^{111,112} This leaves HPMAs vulnerable to non-licensable activities.

While the licensing regime affords some level of protection to all sites, overall the MPA network is not being well managed. This situation will persist until all management measures for the fishing sector are in place and effectively enforced. In addition, in 2023/2024, approximately 10% of marine licences received a compliance inspection, which may limit their effectiveness in regulating marine activities.¹¹³

Further assessment of progress for the marine aspects of the thriving plants and wildlife goal has been disaggregated by key pressures, identified through our call for evidence on the drivers and pressures affecting achievement of GES.¹¹⁴

Fishing

The main pressures caused by fishing include bycatch, overfishing, species disturbance, reduced prey availability and habitat degradation.¹¹⁵ There has been mixed progress towards addressing fishing pressures.

No further byelaws came into force to manage fishing activity in English MPAs during the annual reporting period. Regarding Fisheries Management Plans (FMPs), measures set out in the frontrunner FMPs moved to implementation stage following legislation laid by Defra.^{116,117} A second round of five FMPs were consulted on in January 2025, which are due to be in place before the end of 2025.¹¹⁸ Publication deadlines for the remaining four Defra-led FMPs were delayed, and are now due before the end of 2026.¹¹⁹ These actions are discussed further in [Chapter 7](#).

Offshore infrastructure

Offshore infrastructure, such as oil and gas, renewable energy structures, pipelines and cables, exerts a variety of pressures on the marine environment. These pressures include disturbance of physical habitat, disruption of migratory pathways, collision risk and noise pollution. Progress over the annual reporting period to reduce impacts from this pressure was promising, although many actions are in an early stage of development.

Government consulted on the commitment not to issue new oil and gas licenses to explore new fields.¹²⁴ The Clean Power 2030 Action Plan was also published, which aims to reach 43-50 GW of offshore wind (OFW) capacity by 2030, a prerequisite to net zero greenhouse gas emissions by 2050.¹⁰² The Climate Change Committee (CCC) assess that the annual rate of OFW installations must triple, and over 73% of the area leased for OFW in English waters is within MPAs.^{125,126} OFW therefore represents a rapidly growing pressure on sensitive marine ecosystems.

A package of measures was delivered to provide guidance and test measures that will reduce impacts from noise and turbine collisions.¹²⁷⁻¹³⁴ Plans were also announced to consult on setting an OFW construction noise limit, although the development timeline is unclear.¹²⁷ This will be key for protecting noise sensitive species, such as MPA features within the East Marine Plan area, where 30 GW of OFW capacity is expected.¹³⁵

Progress was made in delivering the Offshore Wind Environmental Improvement Package through the Energy Act 2023, which aims to expedite the consenting process.²⁸ Government consulted on the Marine Recovery Fund, which will provide a mechanism for developers to fund strategic compensatory measures to discharge compensatory obligations due to damage caused to MPAs.^{29,136,137}

The aim is laudable, as is the integration of monitoring, adaptive management, and the mitigation hierarchy. However, there are risks to the environment that should be addressed, which also apply to government's July 2025 consultation on offshore wind compensatory measures reform.^{138,139} For example, designating compensatory MPAs in a way that maintains network coherence and is additional to normal practise. We also set out potential resourcing challenges across key delivery bodies, and the lack of transparency on the impact of compensatory MPA designation or expansion on achievement of key targets, and coherence with other schemes such as the equivalent Scottish fund and Marine Net Gain. No further information has been published on Marine Net Gain since the 2023 summary of consultation responses.¹⁴⁰

Climate change

Climate change is impacting marine species and habitats now, with more severe impacts predicted in the coming years.¹⁴¹⁻¹⁴³ These effects are amplified in the northeastern Atlantic, which has been warming at nearly twice the global rate.¹⁴⁴

To effectively address climate change, its impacts must be integrated into cross-government decision-making. However, the CCC assess that marine policies and plans are inadequate for managing climate risks.¹⁴⁵ For example, the UKMS Part Three identifies climate change as a pressure but lacks targeted adaptation actions. The draft UKMS Part One, considered in our prospects assessment, outlines climate impacts across GES descriptors but omits the climate-specific actions the third National Adaptation Programme suggested could be included.¹⁴⁶

Area-based policies, such as marine plans, FMPs and MPAs are important tools that could be used together to facilitate the transition to net zero, while ensuring the marine environment is resilient. However, these levers currently consider climate change to varying degrees.

In marine planning, the MPS requires that marine plan authorities consider the outputs of climate change projections and risk assessments.^{31,147} The evidence base is a strength of the UK marine policy framework, developed by organisations such as the CCC and the Marine Climate Change Impacts Partnership.¹⁴⁵ However, while mitigation actions are generally considered in marine plans, adaptation strategies are far less common.¹⁴⁸

There is a statutory obligation on fisheries policy authorities to consider how FMPs will be used to further or achieve the climate change objective set out in the Fisheries Act 2020.¹⁴⁹ Frequent references are made to climate change and net zero across FMPs, however actions are not specific and are often focused on the need for further evidence.^{145,150} While some improvements were made for the second round of FMPs, actions on climate change generally remain limited.¹⁵¹

Well-managed MPAs within an ecologically coherent network could enhance the resilience of ecosystems to climate change.³³ The UK's MPA network exceeds the area required to protect 30% of seas by 2030.^{33,152} In addition, over the annual reporting period, government launched a review to assess the network's capacity to provide functions across climate mitigation and adaptation, while maintaining achievability of environmental targets.¹⁵³ However, the network is not currently effectively managed or monitored and remains vulnerable to growing pressures.

Pollution

Sources of marine pollution span multiple sectors, including waste, water, industry, transport and agriculture. Their impacts are equally diverse, directly damaging ecosystems, affecting growth and reproduction, causing eutrophication, and providing vectors for the spread of invasive species.

Overall, approximately 80% of marine pollution comes from inland sources, which necessitates a source-to-sea approach to the management of pressures on the marine environment.⁶⁰ Progress across other EIP goals is therefore vital to achieving marine targets and commitments.

Table 2.3. Thriving plants and wildlife – summary assessment of progress over the annual reporting period towards meeting targets and other commitments

EA21 targets	Progress
By the end of 2030, we will halt the decline in species abundance (2030 species abundance target).	Mixed
By the end of 2042, we will increase species abundance so that it is greater than in 2022 and at least 10% greater than in 2030 (long-term target to reverse the decline of species abundance).	Mixed
By the end of 2042, we will reduce the risk of species' extinction when compared to 2022 (long-term species extinction risk target).	Mixed
By the end of 2042, we will restore or create in excess of 500,000 hectares of a range of wildlife-rich habitats, compared to levels before 30 January 2023 (long-term wildlife-rich habitat restoration or creation target).	Good
By the end of 2050, at least 16.5% of all land in England is covered by woodland and trees outside woodland (2050 target for woodland and trees outside woodland).	Good
Ensure that not less than 70% of protected features in relevant marine protected areas (MPAs) are in favourable condition by the end of 2042, with the remainder in recovering condition (target for the condition of protected features in relevant MPAs).	Limited
Other targets or commitments	
Restore 75% of protected sites to favourable condition by 2042.	Mixed
65–80% of landowners and farmers adopting nature-friendly farming on at least 10–15% of their land by 2030.	Mixed
Take the necessary measures to achieve or maintain Good Environmental Status of marine waters within the marine strategy area (deadline passed on 31 December 2020). ³⁵	Limited
Ensure that by 2030 at least 30 per cent of areas of degraded terrestrial, inland water, and marine and coastal ecosystems are under effective restoration. ⁴⁶	Limited
Ensure and enable that by 2030 at least 30 per cent of terrestrial and inland water areas, and of marine and coastal areas, are effectively conserved and managed through ecologically representative, well-connected and equitably governed systems of protected areas and other effective area-based conservation measures. ⁴⁶	Limited

2.5. Prospects of meeting ambitions, targets and commitments

We assess overall prospects of meeting ambitions in the thriving plants and wildlife goal to remain largely off track. Furthermore, we consider any new actions are likely too late to substantively influence the prospects of achieving 2030 targets. Policy and environmental lag times will limit the effects these actions have between now and 2030.

For the marine environment, this is largely due to continued delays, a lack of urgency in the implementation of important actions, a lack of coherence across key policy areas, and the absence of a fully evidenced, resourced and time-bound delivery plan for the achievement of GES. On land and in freshwater, there continues to be a lack of operational and strategic spatial prioritisation to maximise outcomes and achieve effective trade-offs across all important actions.

We have observed notable exceptions. For example, Forest Research have developed geographical mapping to inform decisions and trade-offs around woodland creation. Meanwhile the Environment Agency and Natural England are targeting diffuse pollution-reduction action and enforcement of farming regulations. However, these approaches are not integrated with, or apparent across, all key delivery actions.

Uncertainty around biodiversity investment compounds the limited prospects of meeting objectives. It is not possible to understand what action is needed if the baseline position is unknown. For example, the future of the Nature for Climate Fund is unclear. Further progress made towards key targets and commitments through the Fund will be hampered without timely and long-term planning of if, how and when the programme will be merged into the wider ELM scheme or otherwise.

Shifting baselines also complicate the prospects for key targets and commitments. Findings from the Natural Capital and Ecosystem Assessment funded project on tree planting outside woodland show that the baseline of trees outside woodland that was used to set the 2050 EA21 target for woodland and trees outside woodland was itself an underestimate.¹⁵⁴ This reduces the scale of increase and ambition needed to meet the target, and the scope for wider benefits to be achieved from planting more trees.

A summary assessment of the targets and commitments we assessed prospects of meeting is provided in [Table 2.4](#), with further detail provided below.

A growing and resilient network on land and water that is richer in plants and wildlife

We assess the prospect of achieving the government's commitment for 65–80% of landowners and farmers to adopt nature-friendly farming on at least 10–15% of their land by 2030 to be partially on track. An important milestone has potentially been achieved with an estimated 49–70% of land in agri-environment schemes (AES).

Our analysis last year provided assurance that the government's commitments and plan with regard to nature-friendly farming have potential to make important contributions to EA21 species abundance targets generally.¹⁵⁵ Other research further increases confidence in the role these actions can have at a landscape scale.^{156,157}

Further clarity is required on the specificity and extent to which nature-friendly farming measures are being adopted across that land area and how government will increase farmer confidence in AES, particularly in transitioning to higher-tier type schemes, considering a lack of clear pathways and a recent loss in confidence from farmers and landowners on the rollout of schemes.

There is still considerable uncertainty around how nature-friendly farming can adequately reduce water pollution to support freshwater species.¹⁵⁸ With freshwater species accounting for around a quarter of species in the EA21 species abundance targets, there remain major risks to achieving the target. We assess this further in [Chapters 3](#) and [12](#).

A number of enabling actions towards the target have been progressed within the year, such as the development of LNRS and the land-use framework.¹⁵⁹ However these outputs are unlikely to be operationalised in time to substantially influence the prospects of meeting the 2030 species abundance target.

Defra has also progressed with developing pathways towards the EA21 biodiversity targets set by the Environmental Targets (Biodiversity) (England) Regulations 2023, as well as developing a policy contribution framework towards each target. They currently do not appear to fully address delivery risk and uncertainties. Taking these into account is necessary to provide assurance that delivery plans are credible. Research shows that ecological delivery plans are often less successful than anticipated.¹⁶⁰

We consider prospects for the EA21 2030 species abundance target to be partially on track. This is due to a continued lack of evidence on how the abundance of freshwater species will be stabilised or increased to support prospects of meeting the target.

Our lack of confidence in meeting the 2030 species abundance target influences our assessment of the long-term EA21 target to reverse the decline of species abundance. We consider increasing species abundance to be far more challenging than halting the decline. There is a continued lack of assurance around delivery pathways, particularly around ELM.

The continued lack of focus on high-tier-type schemes and advice and guidance in nature-friendly farming remains a gap in supporting the prospects of achieving the long-term target. In the absence of a clear, spatially prioritised and higher-tier-focused AES, we continue to assess the prospects of meeting this target to be largely off-track.

Our report on the implementation of protected sites laws has identified areas for significant improvement relating to governance arrangements, resourcing, designation, monitoring, management and regulation. Whilst Defra has reported that progress is on track to achieve the EA21 interim target for 50% of SSSIs to have actions on track to achieve favourable condition, the area of SSSIs in favourable condition is in decline, the EA21 interim target relating to SSSI condition assessment is reported to be off track and wider progress such as the deployment of protected site strategies has been slow. Our report makes recommendations so that protected sites can more effectively contribute towards targets and commitments.

We therefore assess prospects for achieving the commitment of bringing 75% of protected sites into favourable condition by 2042 to be largely off track. A lack of progress in improving the condition of SSSIs will directly reduce the prospect of meeting the EA21 long-term species' extinction risk target. We consider this target also to be largely off track if measures to specifically address threatened species are not scaled up, alongside high-quality, targeted AESs, at scale and supported by advice.

Delivery activities in the annual reporting period on both woodland and trees outside woodland and wildlife-rich habitat restoration or creation, if sustained, will contribute substantially towards the relevant targets. These rates are close to historical highs and are therefore achievable. The Forestry Commission have identified a further 7,600 hectares of prospective tree planting, equivalent to another year of planting need.¹⁶¹

The prospects of meeting both the 2050 EA21 target for woodland and trees outside woodland and the long-term EA21 wildlife-rich habitat restoration or creation target remain difficult to assess without clear delivery pathways and contribution frameworks that fully account for delivery risks. Without a credible spatially explicit delivery plan in place, we assess prospects for both targets to be partially on track.

We also consider actions to improve woodland management to have potential to increase biodiversity and potentially to support the long-term wildlife-rich habitat restoration or creation target and wider biodiversity targets and commitments, such as the 30 by 30 commitments. Less than two-thirds of woodland areas are currently assessed as sustainably managed (see [Chapter 7](#)).

Last year we assessed prospects to achieve both 30 by 30 commitments on land to be largely off track. This was mostly due to a lack of transparency on how government intends to achieve either commitment. While progress made in the annual reporting period is welcome, we continue to assess prospects as largely off track. This is due to the lack of a published action plan and the current pace of progress given the deadline for meeting the targets is only five years away.

A growing and resilient network at sea that is richer in plants and wildlife

Government is largely off track for its overall ambition for the marine environment to secure clean, healthy, productive and biologically diverse seas and oceans.¹⁶² Ultimately, failing to meet this vision will present significant economic risks, as well as have profound environmental consequences, with implications for delivery of wider targets and commitments.¹⁰¹

Thresholds set for marine GES were not met for multiple descriptors by 2020, and we now assess prospects for GES to be largely off track for achievement in the shortest possible time. Collective trends point to a continued decline in the state of marine habitats and ecosystems, suggesting current measures are broadly inadequate or ineffective across the UK marine environment, and progress over recent annual EIP reporting periods has been limited. Persistent major pressures such as climate change, bottom trawling, overfishing, expansion of marine infrastructure and pollution are generally not being effectively managed.

Government recently published updates to the UKMS Part Three Programme of Measures, and a draft version of the Part One Assessment for consultation. While the updates are welcome, they have not improved prospects. It is our view that the updated UKMS Part Three does not clearly demonstrate how the actions it identifies will stack up to form a timebound, evidence-based and fully resourced delivery plan, and does not reflect the step up in urgency and ambition that is needed.

Effectively tackling the causes of marine degradation necessitates an integrated, source-to-sea approach across EIP policy areas. Therefore, achievement of GES will continue to be undermined by the lack of coherent and credible delivery plans, and meaningful integration into relevant policy frameworks across the EIP.¹⁶³

Prospects for both the EA21 target for the condition of protected features in relevant MPAs and 30 by 30 commitments are assessed to be largely off track. Overall, the lack of effective management of MPAs at a network scale, particularly of fishing in these areas, against a backdrop of increasing pressures, presents significant risks to achieving the EA21 target, and to fully achieving 30 by 30 commitments.

Progress in implementing MPA management measures slowed further over the annual reporting period, with government missing the 2024 milestone that underpinned the targets' supporting evidence.³² This leaves 40% of MPAs, and the three HPMPAs, exposed to damaging activities.¹⁰³ Government now expects all MPAs to have the appropriate management measures in place by 2026.³⁸ However, without a step-change in urgency, this milestone is unlikely to be met. It took nearly two years to develop and implement Stages one and two.¹⁰⁶ Based on that timeline, Stage three could come into force in September 2026 and Stage four measures have not yet been subject to consultation.

Defra has previously indicated that the EA21 target for the condition of protected features in relevant MPAs could be achieved if byelaws are in place by as late as 2030. However, this assumes pressures from other industries are removed and evidence has not been published to support this alternative delivery timeline.

We have observed some progress in the marine planning sector. Government consulted on not issuing new oil and gas licenses and has made progress in implementing the Offshore Wind Environmental Improvement Package, which could help to protect the marine environment from OFW expansion and prevent further net degradation. However, the prospects of achieving targets and commitments will be hindered if the risks we outlined in our responses to recent consultations are not addressed.^{138,139} In particular, government's proposal to remove the requirement of network coherence and to allow compensation measures for different features in different MPAs could lead to a piecemeal reshaping of the MPA network.¹⁶⁴ The impact of OFW expansion and use of compensatory MPAs on achievement of targets should be made clear.

However, the overarching MPS is outdated and does not capture government's current ambitions for the marine environment.¹⁰¹ In addition, key considerations such as nature-based solutions and climate change adaptation are not considered sufficiently. Overall, this means the MPS is unlikely to be effective in providing clear direction for the development of the second generation of marine plans. This increases the risk that decisions informed by marine plans in the future will not contribute to environmental targets as effectively as they could, nor be resilient over time.

Table 2.4. Thriving plants and wildlife – summary assessment of prospects of meeting targets and other commitments

EA21 targets	Prospects
By the end of 2030, we will halt the decline in species abundance (2030 species abundance target).	Partially on track
By the end of 2042, we will increase species abundance so that it is greater than in 2022 and at least 10% greater than in 2030 (long-term target to reverse the decline of species abundance).	Largely off track
By the end of 2042, we will reduce the risk of species' extinction when compared to 2022 (long-term species extinction risk target).	Largely off track
By the end of 2042, we will restore or create in excess of 500,000 hectares of a range of wildlife-rich habitats, compared to levels before 30 January 2023 (long-term wildlife-rich habitat restoration or creation target).	Partially on track
By the end of 2050, at least 16.5% of all land in England is covered by woodland and trees outside woodland (2050 target for woodland and trees outside woodland).	Partially on track
Ensure that not less than 70% of protected features in relevant marine protected areas (MPAs) are in favourable condition by the end of 2042, with the remainder in recovering condition (target for the condition of protected features in relevant MPAs).	Largely off track
Other targets or commitments	
Restore 75% of protected sites to favourable condition by 2042.	Largely off track
65–80% of landowners and farmers adopting nature-friendly farming on at least 10–15% of their land by 2030.	Partially on track
Take the necessary measures to achieve or maintain Good Environmental Status of marine waters within the marine strategy area by 31 December 2020. ³⁵	Largely off track
Ensure that by 2030 at least 30 per cent of areas of degraded terrestrial, inland water, and marine and coastal ecosystems are under effective restoration. ⁴⁶	Largely off track
Ensure and enable that by 2030 at least 30 per cent of terrestrial and inland water areas, and of marine and coastal areas, are effectively conserved and managed through ecologically representative, well-connected and equitably governed systems of protected areas and other effective area-based conservation measures. ⁴⁶	Largely off track

2.6. Opportunities for improvement

For the terrestrial and freshwater environment, government has taken welcome steps over the annual reporting period towards improving prospects of meeting ambitions, targets and commitments. Despite this, we consider these actions are likely to be too late to substantially influence the prospects of achieving targets set for 2030.

An Environmental Improvement Plan is intended to be a long-term endeavour. Looking ahead, if an effective EIP and APR are developed and turned into sustained and actionable delivery, we consider that long-term targets and commitments after 2030 are achievable.

We have said before that the EIP23 has the types of actions required to protect and improve the natural environment, but their scale, quality and pace must be increased. We also consider that if government adopts an integrated approach to target delivery, it can maximise outcomes and minimise trade-offs with competing demands.

Opportunities for improvement remain similar to those previously outlined in our progress reports. Detailed delivery plans are needed to achieve the EA21 long-term target to reverse the decline in species abundance. These plans must have greater ambition, in particular with regards to the proportion and extent of higher-tier AES. Our report on the implementation of protected site laws identifies opportunities for ensuring that these sites can effectively play their role as the core parts of a wider ecological network. We also consider that protected landscapes could have a major role to play in delivery because of their ability to convene action at a large scale.

These plans should align with key national targets and commitments and include clear and appropriate steps. Government must ensure that EA21 interim targets make an appropriate contribution towards achievement of the following EA21 targets: the 2030 species abundance target, the long-term target to reverse the decline of species abundance, and the long-term species extinction risk target.

Government should also develop further, suitably ambitious EA21 interim targets that will form direct milestones on the route towards species recovery. For example, in previous progress reports, we have set out the need for clarity and specificity for species abundance and wildlife-rich habitat sub-groupings.

Government should also clearly articulate how national targets and commitments align with international commitments, specifically Global Targets 2 and 3 of the Kunming-Montreal GBF and set out plans where there are gaps in delivery.

Furthermore, these plans should be supported by prioritisation at multiple spatial and governance scales. Government should scale up and accelerate spatial prioritisation actions, such as the Land Use Framework, to optimise implementation of key policies and ensure local and national scale activity is harmonised.

These plans should identify and mitigate risks associated with the high dependency on a few key actions. Our previous reports have identified important issues to be addressed: the effectiveness of farming schemes towards reducing water pollution, uncertainty with regards to the status of the Nature for Climate Fund, the imbalance of management versus creation of habitats, uncertain and shifting monitoring baselines, and uncertain levels of investment. The absence of risk-based decision-making in the development of pathways toward target delivery has diminished our confidence in the effectiveness of these delivery pathways.

A plan should be supported by more explicit, timely, transparent and accessible evidence, and by granular monitoring and evaluation to support assessment of both target delivery and real-world improvement. Further assurance is required on progress being made towards the 2030 species abundance target. Using two consecutive years to assess progress with the 2030 species abundance target is problematic in understanding whether government's plan has actually addressed the main objective of halting the long-term decline in species abundance.

Immediate priorities for further monitoring and evaluation include clarifying participation in agri-environment schemes, and filling major gaps, including expansion and regular collation of marine monitoring data to clarify the status of marine and coastal species abundance.

Moreover, in the marine environment, government has largely not realised opportunities to improve prospects of meeting targets and commitments. The issues we have identified are not insurmountable. The levers needed to achieve marine targets are already in place, but they must be used more effectively, and delivery needs to rapidly speed up and scale up to realise this potential.

It is our view that the updated UKMS Part Three does not currently represent the fully evidenced, resourced and time-bound delivery plan that is needed to meet GES in the shortest possible time. Addressing this should be a priority. In addition, government has further opportunities to develop comprehensive, coherent plans.

The marine planning framework has the potential to play a key role in balancing economic, environmental, and social policy objectives, and could more effectively support delivery of GES. However, the overarching MPS does not reflect current government objectives, targets and commitments. These are set out in other documents, such as the EIP and Clean Power 2030 Action Plan, however if they are not drawn together coherently, there is a risk the second generation of marine plans will be developed with a lack of coordinated approach and clear strategic direction.

There is an opportunity for government to update and revise the MPS to address this risk. The ongoing development of the second generation East Marine Plan will enable government to test whether the broader marine planning policy framework, including MPS, is fit for purpose.

Any update to MPS would have additional benefits, such as providing an opportunity to operationalise the findings of the Marine Spatial Prioritisation Programme. This programme is developing an understanding of how different sectors could co-locate (in English waters), as well as how marine plans operate, but has not yet produced tangible outputs.¹⁰¹ It could also strengthen delivery of GES by encouraging more explicit consideration of GES descriptors in marine plans, as well as the better integration of GES across wider EIP policy areas, many of which represent key marine pressures.

On MPAs, the UK led the way internationally in advocating for the 30 by 30 commitments. However, the UK MPA network is not currently being well managed, particularly in terms of reducing impacts from fishing. Government has an opportunity to reestablish the UK's position as a leader in this area by meeting its proposal to have management measures in place by 2026. Government should also ensure the necessary resources are in place for monitoring and enforcement to safeguard the effectiveness of management measures over time.

Finally, there are additional opportunities to improve the state of marine data and monitoring, to better inform the development and prioritisation of actions, and enable adaptive management. The ongoing development of the MPA monitoring and assessment strategy, due to be finalised in 2028, should be developed alongside the forthcoming update to the UKMS Part 2 monitoring programme, expected in 2027.^{35,52,165} Not only could this address specific data gaps but also presents an opportunity to better align feature-based MPA monitoring with GES, making more efficient use of resources, and potentially unlocking further benefits of the MPA network to GES.

Recommendations for thriving plants and wildlife

In our 2022/2023 progress report, we made seven recommendations relating to targets, delivery plans, risk management, spatial prioritisation, and monitoring and evaluation. Progress to date has been mixed or limited. Therefore, these recommendations still stand.

In our 2023/2024 progress report, we made three recommendations focusing on the development of targets and commitments.

Government has partially accepted our recommendation relating to implementing a fully evidenced, resourced and time-bound delivery plan that sets out how the good environmental status of marine waters target will be achieved as quickly as possible. Progress over the annual reporting period has been limited. Therefore, this recommendation still stands.

Government has deferred a full response to our recommendation relating to defining in a revised EIP a set of interim targets which together are consistent with the overall trajectory of environmental improvement required to meet EA21 targets. Government states that the revised EIP will clarify EA21 target delivery plans and update their corresponding interim targets. We have not assessed progress regarding this recommendation but will do so after analysing the EIP25. Therefore, this recommendation still stands.

Government has accepted our recommendation relating to consulting on the indicator underpinning the species abundance index used to monitor progress with the EA21 species abundance targets. Progress over the annual reporting period has been good. Government has published and updated the data and methodology underpinning the index. Furthermore, Defra officials have engaged positively with stakeholders. We encourage this level of engagement and transparency in the finalisation of the index.

Chapter 3:

Clean air



Chapter 3: Clean air



3.1. Summary assessment

Air pollution is a major pressure on the natural environment. It is considered one of the largest environmental risks to public health. Every year poor air quality in England causes 26,000 to 38,000 early deaths, at an estimated economic burden of £27 billion due to healthcare costs, productivity losses and reduced quality of life.

Improving trends dominated across pollutant emission and ambient air quality indicators over the last five years. The UK met all five 2023 emissions reduction commitments (ERC), while the Environment Act 2021 (EA21) interim target levels for fine particulate matter ($PM_{2.5}$) concentration and population exposure continue to be met. However, nitrogen dioxide (NO_2), ozone and nickel concentration standard exceedances persist, as do damaging levels of nitrogen deposition.

Overall progress was mixed over the annual reporting period, an improvement on 2023/2024, with promising actions implemented across multiple key sectors, particularly road transport. However, delayed action and key regulatory gaps persist at local and national level, such as for the control of agricultural ammonia emissions.

Prospects of meeting the UK's targets are partially on track. Projections suggest ammonia is the only pollutant of five for which the 2030 ERC is off track. Given recent trends, the two EA21 $PM_{2.5}$ targets are expected to be met. However, exceedances of NO_2 standards are likely to persist beyond 2030.

Government can build on the review of the Environmental Improvement Plan by developing an ambitious Clean Air Strategy update, alongside considering a review of targets and commitments. Together, these actions would enable government to reconsider the pollutants and standards in current regulations, to make delivery partnerships more effective, and to address regulatory gaps and persistent delays.

Table 3.1. Clean air – summary assessment

Past trends	Emissions of all five pollutants with ERCs declined between 2018 and 2023. Improvements were also observed across indicators of ambient air quality. The area of land exceeding damaging levels of nitrogen deposition showed little to no change.	Improving trends dominate
Progress in the reporting period	Positive actions include reinstating the 2030 phase-out date for new petrol and diesel cars, publishing guidance to integrate EA21 $PM_{2.5}$ targets into planning decisions, increased funding for active travel, and improvements to public communications. Actions taken on domestic combustion also appear to be taking effect. Some key issues remain at national and local level, such as persistent delays in implementing and finalising some local NO_2 plans, and regulatory gaps in the agriculture and road transport sectors.	Mixed
Overall prospects of meeting ambitions, targets and commitments	Projections suggest four of five 2030 ERCs are on track. Further action is needed to meet the 2030 ERC for ammonia – action that is essential for the Clean Air Strategy 2030 nitrogen deposition target. The two EA21 $PM_{2.5}$ targets are on track, with 2028 interim levels having already been met. Localised roadside NO_2 limit value exceedances are projected to persist beyond 2030.	Partially on track
Robustness	The UK has an advanced monitoring, modelling and reporting framework in place for emissions and ambient concentrations. Data are readily available.	

3.2. Context and commitments

On a national scale, outdoor air quality in the UK has improved significantly over the last 50 years. However, these national level improvements can mask local level trends and pollution hot spots. Research also suggests that humans and the natural environment suffer negative health impacts at ever lower levels of pollution than previously thought.^{12,166–169} Therefore, despite improvements over recent decades, air pollution remains one of the greatest environmental risks to people and ecosystems.

It is estimated that 26,000 to 38,000 early deaths are attributable to air pollution per year in England, with a UK-wide economic burden of £27 billion due to healthcare costs, productivity losses and reduced quality of life.^{11–13} Air pollution impacts are also not uniform, disproportionately affecting the elderly, young, and those from more deprived backgrounds.¹² For the natural environment, air pollution damages habitats and can lead to biodiversity loss, presenting a risk to environmental targets.

The UK government's overarching vision is to make the air healthier to breathe, protect nature and boost the economy.¹⁷⁰ To control emissions, the National Emission Ceilings Regulations 2018 (NECR) set national emission reduction commitments (ERCs), transposed from EU legislation, for five key pollutants: fine particulate matter (PM_{2.5}), nitrogen oxides (NO_x), sulphur dioxide (SO₂), non-methane volatile organic compounds (NMVOCs) and ammonia.¹⁷¹ There are ERCs to cover the period from 2020 to 2029 and from 2030 onwards. These were designed to halve the health impacts of air pollution compared with 2005.^{172,173} The UK is party to the Gothenburg Protocol, which is being renegotiated to set commitments for 2040 and 2050.¹⁷⁴

The non-statutory 2019 Clean Air Strategy outlined government's plans to meet the ERCs. It established a commitment to reduce nitrogen deposition on sensitive habitats by 17% by 2030. Government has committed to developing a new comprehensive and ambitious Clean Air Strategy.^{175,176}

For pollutant concentrations in ambient air, the Air Quality Standards Regulations 2010 (AQSR) set standards for 12 pollutants to protect human health and vegetation.¹⁷⁷ These include limit values that must not be exceeded, as well as target values and two long-term ozone objectives, towards which all necessary measures not entailing disproportionate costs must be taken. Where limit values are exceeded, the Secretary of State must produce and implement an air quality plan to ensure compliance in the shortest possible time. The 2017 air quality plan for tackling roadside nitrogen dioxide (NO₂) represents government's air quality plan for achieving compliance with NO₂ limit values.¹⁷⁸

Currently, most AQSR standards are weaker than equivalent EU standards, the revision of which considered World Health Organization (WHO) guidelines.^{179,180} In 2023 two Environment Act 2021 (EA21) targets were introduced for PM_{2.5} in England: a population exposure reduction target and an annual mean concentration target.¹⁸¹ Government committed to considering WHO guidelines as part of an evidence-led process for future targets.¹⁸²

The statutory national Air Quality Strategy previously focused on UK-wide outdoor air quality, but was rescoped in 2023 as an England-only local authority delivery framework.^{183,184} Local authorities are key delivery partners for government and have associated duties under the Environment Act 1995 to monitor air quality and put plans in place to address exceedances of standards. Government has separately directed 37 local

authorities to develop and implement local NO₂ plans under the national 2017 plan for tackling roadside NO₂.^{178,185} Measures in local NO₂ plans fall into two categories: clean air zones and non-charging measures (such as traffic modifications).

3.3. Key environmental trends

We have assessed trends for the emissions of air pollutants, concentrations in ambient air and impact on the natural environment. A summary assessment of the key trends we assessed is provided in [Table 3.2](#).

Emissions of air pollutants

We have assessed emissions for the UK rather than England only, as the Secretary of State must ensure (subject to certain derogations) that UK emissions do not exceed the ERCs. For completeness, we also plot emissions data for England on [Figure 3.2](#), which generally show similar trends.

From 2018 to 2023, emissions of all five NECR pollutants showed improving trends, and all met their respective ERCs in 2023 ([Figure 3.1](#)).¹⁸⁶ The trends for SO₂ and ammonia were not statistically significant, and so emissions in 2023 cannot be clearly distinguished from emissions between 2018 and 2022.

PM_{2.5} represents a broad spectrum of particles, which are associated with serious health impacts, including cardiovascular disease, dementia, stroke and diabetes.^{12,187,188} PM_{2.5} can be emitted directly or is formed as a secondary pollutant from the mixing of ‘precursors’, such as ammonia with NOx and SO₂.¹⁸⁹ PM_{2.5} emissions reduced by 20% between 2018 and 2023.¹⁸⁹ Emissions from combustion across key sectors including domestic, energy, and industry showed strong declines over the same period (22.8%, 40.3% and 18.7% respectively).¹⁹⁰

Exposure to NOx can cause airway inflammation, and damage ecosystems through deposition in soil or water, creating nutrient imbalances. It can also react with other pollutants like NMVOCs to form harmful ground level ozone. Emissions of NOx decreased by 28.3% between 2018 and 2023, largely driven by the road transport and energy sectors, which together account for half of total emissions.¹⁹¹ These trends reflect continued improvements to vehicle standards, the transition to electric vehicles, and increased use of renewable energy sources.

Direct exposure to SO₂ can also cause irritation and constriction of the airways. Emissions reduced by 37.7% between 2018 and 2023, continuing the long-term decline.¹⁹² Fuel combustion is the predominant source of SO₂, dominated by the industry and energy sectors, followed by domestic combustion. Together these account for three quarters of the total. Emissions from these sectors reduced by 41.9%, 40.0% and 18.0% respectively between 2018 and 2023.¹⁹⁰

Ammonia can react with other gases to form harmful secondary PM_{2.5}, and is the dominant source of excess nitrogen deposition on sensitive habitats, followed by NOx.¹⁹³ Emissions decreased by 3.4% between 2018 and 2023, having remained relatively stable since 2008.¹⁹⁴ In 2023, 87% of total UK ammonia emissions were from agriculture, which are largely driven by changes to practices and herd sizes.¹⁹⁴ A relatively recent source is the spreading of non-manure digestate, derived from anaerobic digestion to generate

biogas. Emissions from this spreading, which has been excluded from the ERC compliance reporting total, increased by 3,060% between 2005 and 2023, now accounting for nearly 7% of the total.^{195,196}

NMVOCs are a large group of organic compounds and a precursor to harmful pollutants.¹⁹⁷ Emissions have declined substantially over the long-term due to legislative controls, but has slowed since 2013.¹⁹⁴ From 2018 to 2023, emissions decreased by 14.8%.^{190,197} Domestic solvents (e.g. cosmetics and detergents) contributed 22.7% to total emissions in 2023, which has increased slightly over the last two decades with population growth, also posing a hazard to indoor air quality.¹⁹⁷

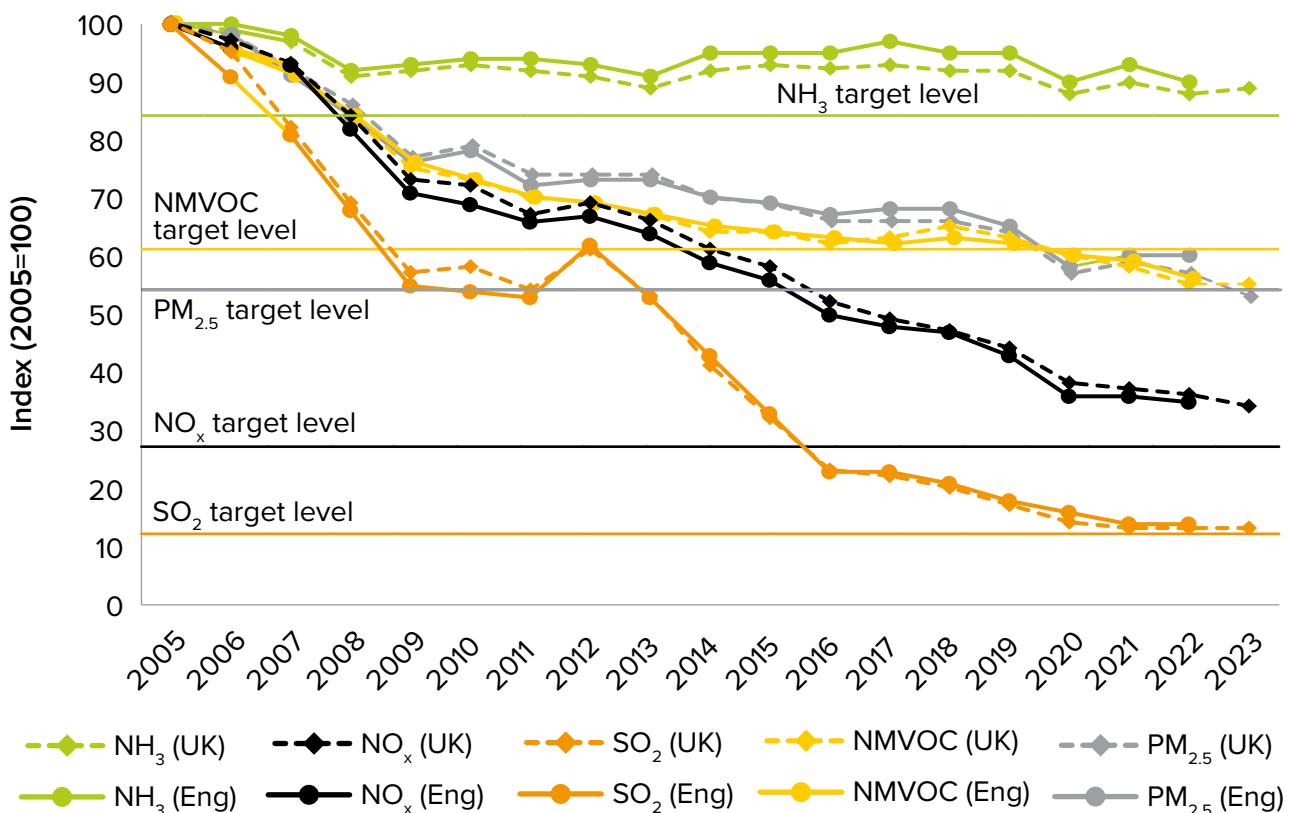


Figure 3.1. Emissions of five key air pollutants reported relative to 2005, the National Emission Ceilings Regulations 2018 baseline year (NH₃ – ammonia, NO_x – nitrogen oxides, SO₂ – sulphur dioxide, NMVOC – non-methane volatile organic compounds, PM_{2.5} – fine particulate matter).¹⁸⁶ Diamonds are UK emissions, circles are England-only. Horizontal target level lines represent UK-level 2030 emissions reduction commitments for each pollutant, as set out in the National Emissions Ceiling Regulations 2018.

Concentrations in ambient air

For the purposes of compliance reporting against air quality standards regulations, the UK is divided into 43 air quality zones, with 31 zones in England. From 2019 to 2024, the total count of zone-level exceedances of AQSR standards in England decreased by 41.5%, a statistically significant trend (Figure 3.2). Standards of five pollutants (lead, carbon monoxide, benzene, sulphur dioxide, coarse particulate matter) have been met in the UK for over 15 years.¹⁹⁸

In 2024, there were 38 reported zone-level exceedances in total, compared with 68 in 2023.¹⁹⁹ Thirty-one were against the two long-term objectives for ozone, set for the protection of human health and vegetation (Figure 3.2). The long-term objective for ozone set for human health was met in four of England's zones in 2024, having not been met in any since 2017. Ozone concentrations are highly variable as they are sensitive to complex interactions with precursor pollutants, as well as meteorological factors, including rising temperatures driven by climate change.^{199–201}

In 2024, two zones exceeded the target value for nickel due to local industrial emissions. Five zones in England also continued to exceed the annual mean limit value for NO₂, down from 25 in 2019. The decrease in the number of non-compliant zones in 2020 is attributed to reduced road traffic flows due to the COVID-19 pandemic lockdown restrictions.¹⁹⁸ Separately, National Highways reported that 15 sections of the Strategic Road Network exceeded the NO₂ limit value in 2024, an improvement on their 2023 assessment.²⁰²

The Automatic Urban and Rural Network monitoring stations measure ambient PM_{2.5} concentrations.²⁰³ Between 2019 and 2024, the proportion of Automatic Urban and Rural Network stations in England measuring an exceedance of the EA21 target level for annual mean PM_{2.5} concentrations of equal to, or less than, 10 µg/m³ reduced by 97%.²⁰⁴ Despite the magnitude of the decline, the five-year trend is not statistically significant. This is because most of the improvement was between 2019 and 2020, when this metric reduced by 87.5%, likely driven by pandemic lockdown restrictions. The number of stations in exceedance of the threshold has remained at a low and stable level since. We also observed a statistically significant reduction in the PM_{2.5} population exposure indicator of 24.6% between 2019 and 2024 (see Methodological Statement Annex).²⁰⁵

These trends indicate overall improvements to air quality on a national scale. However, reporting is often against outdated standards, which do not reflect the current epidemiological evidence base, or levels of ambition now set out in equivalent EU legislation. Government's national compliance reports also do not consistently incorporate local authority air quality data, suggesting that exceedances of standards, for example of the NO₂ limit value, could be more widespread.

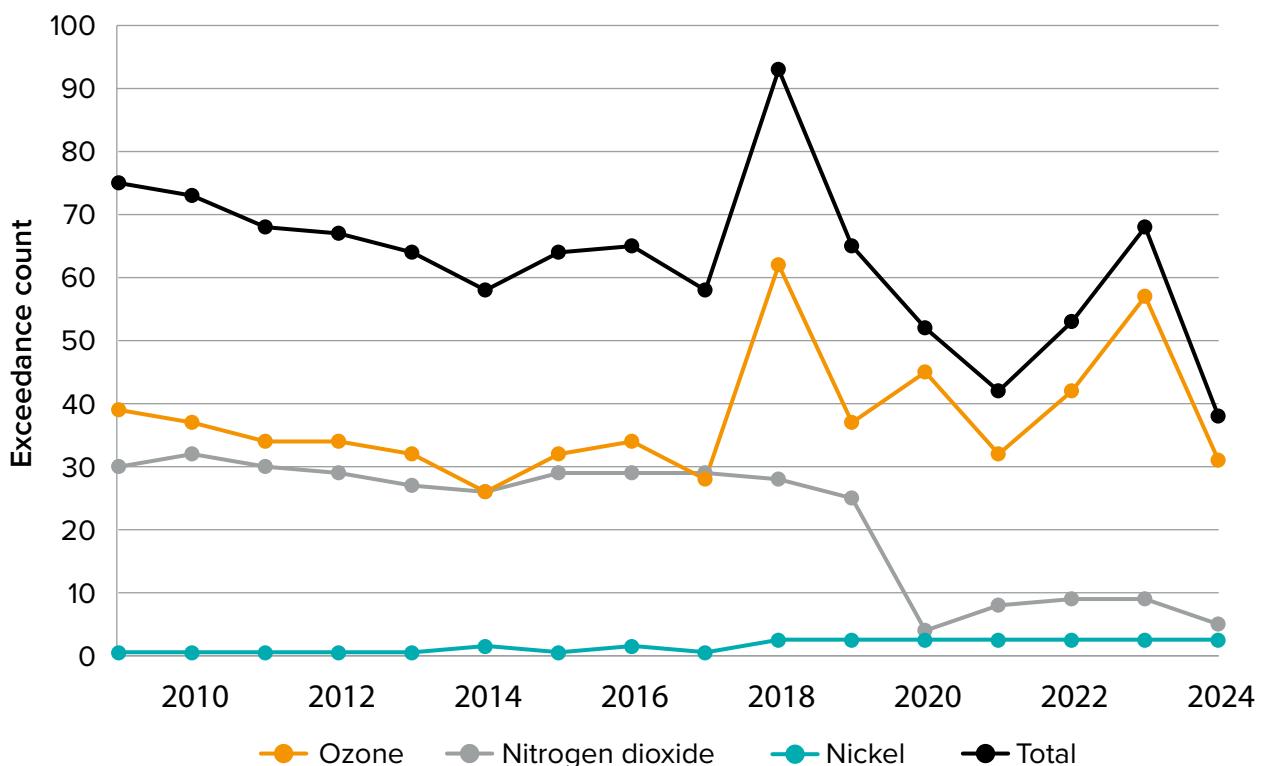


Figure 3.2. Count of incidences of exceedance against all standards (limit values, target values and long-term objectives) and pollutants set out in the Air Quality Standards Regulations 2010 across England's 31 air quality zones. There are multiple standards for some pollutants, such as ozone, so the total count can exceed the number of zones.

Impact on the natural environment

The threshold for harmful effects of nitrogen deposition on ecosystems is known as the 'critical load'. In 2021, the percentage of sensitive habitats in England where nitrogen deposition exceeded critical loads was 99.3%, which is the most recent data available. This trend has shown little to no change since 2003, decreasing by -0.6%. Between 2016 and 2021, total nitrogen deposition onto sensitive habitats reduced by 8.3%.²⁰⁶ The rate of reduction has slowed since our previous assessment.

From 2016 to 2021, the area exceeding the ammonia concentration threshold for sensitive non-vascular plants such as mosses has shown a decrease of 10.2%, to 80.6% of England, an improvement on our previous assessment.²⁰⁶ In 2024, all zones in England met the AQSR NO_x and SO₂ standards set for vegetation, whereas four zones exceeded the long-term ozone objective set for vegetation, down from 26 in 2023.^{198,199}

Table 3.2. Clean air – summary assessment of trends

Indicator	Indicator trend	Trend time period
UK emissions of five key air pollutants	NO_x 	2018-2023
	SO_2 	
	NMVOC 	
	$\text{PM}_{2.5}$ 	
	NH_3 	
Incidents of exceedances against Air Quality Standards Regulations 2010 in England		2019-2024
Percentage of monitoring stations above $10 \mu\text{g}/\text{m}^3$ annual mean $\text{PM}_{2.5}$ concentration		2019-2024
$\text{PM}_{2.5}$ population exposure indicator		2019-2024
Exceedance of damaging levels of nutrient nitrogen deposition in England		2016-2021

3.4. Progress towards ambitions, targets and commitments

Overall policy progress towards targets and commitments was mixed over the annual reporting period, representing an improvement on our previous assessment. There have been some promising examples of tangible progress, although there are persistent delays across some key actions at a national and local level. Just eleven actions were reported in the Annual Progress Report (APR 2025), again providing a partial picture of progress.

Progress towards the two EA21 $\text{PM}_{2.5}$ targets specifically was mixed over the annual reporting period. Interim EA21 $\text{PM}_{2.5}$ target levels continue to be met in advance of the attainment date (end of January 2028), and the ERC for $\text{PM}_{2.5}$ was met in 2023. Further progress has been made across multiple areas, building on the previous reporting period. This includes improvements to government's public communications, guidance to integrate the EA21 $\text{PM}_{2.5}$ targets into planning decisions, further expansion of the monitoring network,

and progress across key sources including road transport and domestic combustion. However, slow progress in the agricultural sector to address ammonia emissions and trade-offs with net zero remain risks to target achievement.

A summary assessment of the targets and commitments we assessed progress towards is provided in [Table 3.3](#), with further detail provided below.

Cross-cutting

There are multiple actions that cut across source sectors and impact progress towards all air quality targets. They relate to communications, local authorities, and changes to national air quality strategy and governance.

Action to improve the public provision of air quality information was good. Defra and the UK Health Security Agency published the Air Quality Information System Review, delivering on an Environmental Improvement Plan 2023 (EIP23) commitment. It concluded the UK has comprehensive monitoring and reporting capabilities, but the information is not published in an accessible way.²⁰⁷ The report was delayed, having previously been expected in early 2024.²⁰⁸ However, government began work on multiple recommendations, including developing a new alert system, and publishing the air quality digital project – an air quality information service.^{209,210}

To support local authorities, Defra relaunched the Air Quality Hub it took control of in 2023/2024, providing a resource and knowledge-sharing platform.²¹¹ Interim guidance was also published for planning authorities, outlining how the two EA21 PM_{2.5} targets should be considered in decisions.^{212–214} This guidance could improve prospects of meeting the two targets by helping to ensure measures are considered at design stage to limit emissions of PM_{2.5} and precursor pollutants. We await publication of the substantive guidance, expected in 2025, alongside impact assessments and information about how due regard was given to the Environmental Principles Policy Statement.²⁴

Driving effective local action through local authorities is a key component of this EIP23 goal. However, local authorities often report that a lack of capacity and resources can preclude effective delivery. Government committed to carrying out a full audit of local authority powers and barriers to delivery in the national Air Quality Strategy. While some engagement has been undertaken, reflecting some progress no formal audit has been published.¹

As noted in Defra's EIP review, short-term funding cycles and a reliance on grant funding continue to be a barrier to effective delivery, as it can limit long-term certainty and favour larger, better-resourced authorities.^{215–217} Defra revoked the Air Quality Grant scheme for local authorities over 2023/2024. Officials were asked to redesign the scheme, potentially providing an opportunity to review the grant funding model. We await the outputs of Government's ongoing work to simplify and consolidate local government funding.²¹⁸

Action over the annual reporting period to strengthen national level strategy, targets and governance was mixed. A UK-wide Emissions Reduction Subgroup has been established as a non-legislative alternative to the National Air Pollution Control Programme (NAPCP) planning framework.²¹⁹ The group will consider the annual pollutant emissions inventory and projections, as well as policy delivery. This is welcome, however it is not clear whether outputs will be made available for public scrutiny and whether triggers are in place to instigate the revision of delivery plans when ERCs are off track or missed.²²⁰ This is needed

to fully address the accountability and transparency gap left by revocation of the statutory provisions relating to the NAPCP.²²¹

Over the annual reporting period government committed to delivering ‘a comprehensive and ambitious Clean Air Strategy’, in addition to considering WHO guidelines as part of an evidence-led process when considering future targets and determining whether current targets are ‘fit for purpose’ through the EIP review.^{175,176,222–225} The UK also supported the WHO pledge to take actions towards a 50% reduction in air pollution health impacts by 2040.²²³

These announcements are promising, and could partially address our previous recommendations, however the scope and timeline of these commitments is unclear, and they appear to fall short of firmly committing to reviewing air quality standards, and to update the Clean Air Strategy.²²⁰ These actions are important as the UK has fallen behind international ambition following the EU’s update to equivalent standards.¹⁸⁰

Road transport

Overall, recent action in this sector represents mixed progress towards clean air targets and commitments.

Over the annual reporting period, government reinstated the 2030 phase out date for the sale of new cars powered solely by internal combustion engines, which had been made less ambitious in 2023/2024. Government confirmed that all new cars and vans will be required to be zero emission by 2035, while between 2030 and 2035, hybrid cars can be sold.^{226,227} Further legislation is still required to formally reinstate the 2030 phase out date for cars, and introduce the 100% zero emission mandate for both cars and vans by 2035.^{228,229}

As it stands, the existing Zero Emission Vehicle (ZEV) mandate, which came into force in 2024, appears to be working effectively to stimulate the market in ZEV cars. ZEVs accounted for 19% of all new car registrations in 2024, up from 16% in 2022 and 2023.²³⁰ Registrations in 2024 were still 3% below government’s ZEV mandate headline target (22% for cars), however the growth in market share is promising, and manufacturers are still on track for compliance with the mandate for a second year through use of flexibilities in the scheme.^{126,227,231} The market share of new electric vans did not grow in 2024 and is below the prescribed pathway.^{126,232}

The UK’s public charging device network has continued to expand. The number of charging points has increased by more than four-fold over the last five years, and 28.2% over the annual reporting period (April 2024 to April 2025), which is ahead of the rate required to meet government’s target of 300,000 by 2030.^{233–235} Schemes such as the £450m Local Electric Vehicle Infrastructure programme support Local Authorities to install public charging points.²³⁶ The programme has experienced delays, although as of July 2025, two-thirds of projects are marked as approved for delivery.^{234,237} However, accessibility to charging points is not uniform, with 43% located in London and the south-east.²³⁴

Increased uptake of ZEVs will continue to reduce tailpipe air pollutant emissions, however sources such as tyre and brake wear now comprise the largest proportion of total road transport PM_{2.5} emissions.^{189,194} Non-exhaust sources are not currently included in existing UK emission standards for new vehicles.^{194,238,239} Government is considering but has not yet committed to applying Euro 7/VII vehicle standards in Great Britain, which would introduce non-exhaust standards.²⁴⁰ A ministerial decision was not made in 2024 as expected.^{241,242}

Emissions of air pollutants from extant and new petrol and diesel vehicles, which account for 68% of roadside NO₂, must also be managed alongside the rollout of ZEVs.¹⁹¹ Local NO₂ plans are a key tool for this. Out of the 37 local authorities that were directed to develop and implement local NO₂ plans under the 2017 UK plan for tackling roadside NO₂ concentrations, 35 have finalised plans. Seven have now been granted approval to exit the programme having demonstrated compliance with the limit value.²⁴³

Over the annual reporting period, government approved the local NO₂ plan for Greater Manchester (representing 10 Local Authorities) and provided £1.45 million funding through the NO₂ programme.^{49,244} Government also published an evaluation of local NO₂ plans, which suggests they can drive steep increases in vehicle compliance, and result in significant reductions in roadside NO₂ concentrations. Faster and more widespread declines are also observed where clean air zones are implemented.²⁴⁵

The number of air quality zones exceeding the NO₂ limit value is decreasing ([Figure 3.2](#)). In 2024, Greater London met limit values for the first time, surpassing projected compliance dates.^{198,246,247} However, five air quality zones in England still exceeded the NO₂ limit value, partly reflecting persistent delays in approval and implementation of local NO₂ plans. Greater Manchester is one such example. There is one local NO₂ plan, covering local authority-measured exceedances in Stoke on Trent and Newcastle Under Lyme, which has not been finalised and remains under ministerial consideration eight years after publication of the national plan. There are also multiple additional non-compliant local authority areas for which local NO₂ plan measures have been approved but not yet fully implemented and are well beyond initial projected compliance dates. Overall, the OEP has concluded that the Secretary of State may have failed, and be continuing to fail, to comply with relevant duties under the AQSR to ensure that such plans are drawn up and implemented.²⁴⁸

The UK vehicle fleet is shifting to a higher share of cleaner vehicles (e.g. Euro 6/VI diesels and ZEVs) over time. However, there is evidence that many of the vehicles already in use are more polluting than previously thought. Department for Transport (DfT) have launched an investigation into the potential use of illegal ‘defeat devices’ across 75 vehicle models from 27 brands, which are used to elude emissions testing.²⁴⁹ Driver & Vehicle Standards Agency’s 2024 market surveillance activity also identified diesel emissions components that did not meet legislative standards.²⁵⁰ Extant diesel vehicles represent over 30% of registered vehicles, many of which may be more harmful to health than previously considered.^{251,252} The DfT’s investigation may culminate in the recall of some of these vehicles. This indicates some proactive action is underway, but the impact on health and target achievability is unclear.

We have observed more promising action on active travel. A £291 million funding package was announced to support local authorities to deliver walking, wheeling and cycling schemes.⁴⁹ This addresses cuts over previous reporting periods, although falls short of addressing the gap to National Audit Office estimates on what could be spent. Overall, National Audit Office consider that DfT is not delivering sufficient action to contribute to climate and environment targets.^{253,254}

Domestic and Industrial Combustion

Overall progress in reducing emissions from domestic combustion was mixed. The percentage contribution of domestic combustion to total annual UK PM_{2.5} emissions has increased from around 11% to just over 20% over the last two decades, largely reflecting

an increase in the use of wood stoves. However, between 2018 and 2023, emissions from the sector have steadily declined by 23.3%.^{190,194} This decline alongside an increase in wood burning likely reflects the impact of several policies implemented within the last five years, including improving standards through the introduction of Ecodesign standards for stoves, controls on fuels including banning the sale of traditional house coal and restricting the sale of wet wood, and burning awareness campaigns.^{255,256}

Over the annual reporting period, Defra launched Phase 2 of the Air Quality Competition, run by Innovate UK. This will fund six companies to develop new ways to reduce emissions of PM_{2.5} from domestic burning, as well as emissions of ammonia from other sources.⁴⁹

Despite some areas of progress, domestic combustion still accounts for 20.1% of total UK PM_{2.5} emissions, and there are areas of regulation that could be made more effective. For example, changes to the Smoke Control Area (SCA) regime were introduced through the Environment Act 2021 to make enforcement quicker and more proportionate for local authorities. However, a small minority of complaints have resulted in inspections in recent years, and even fewer in fines or penalties.^{12,257,258} Local authorities have reported that enforcement remains challenging due to a lack of capacity and resources.^{12,259} There was also a commitment in EIP23 to tighten emission limit values for new stoves in SCAs, which has not been consulted on. The commitment in the national Air Quality Strategy to explore policies to incentivise a shift from older wood burning stoves to newer devices has also not resulted in clear additional action.^{184,260}

Emissions of PM_{2.5} and NOx from industrial combustion overall have reduced gradually by 18.7% and 21.5% between 2018 and 2023, largely driven by the phase out of fossil fuels. This transition continued over the annual reporting period with the closure of Ratcliffe-on-Soar, the last UK coal-fired power station. However, industrial use of biomass-based fuels is increasing, partially offsetting reductions in fossil fuel emissions from the sector.^{189,194} Over the annual reporting period the Secretary of State issued a direction to the Environment Agency to set and apply standards to limit air pollution from the use of new fuels in medium combustion plants.²⁶¹ Technical reviews were also completed for five sectors under the UK Best Available Techniques (BAT) system, following roll out and update of the framework over the previous two reporting periods which will help to ensure they are using the most up-to-date techniques to reduce emissions to air.^{220,262} UK BAT is identified as a key factor in driving trends for four of five ERC pollutants.¹⁹⁴

Agriculture

Overall progress in this sector towards clean air targets and commitments was limited. The main air pollutant emitted from the agriculture sector is ammonia, accounting for 87.1% of total UK emissions, largely sourced from livestock wastes and the application of fertilisers.^{190,194}

Over the annual reporting period, Defra announced grant funding through multiple schemes to improve productivity, some of which will reduce ammonia emissions, such as improving slurry management through a fourth round of the Farming Equipment and Technology Fund and second round of the Slurry Infrastructure Grant. Approximately £180 million has been made available through previous rounds of both schemes.²⁶³⁻²⁶⁶ Defra surveys suggest that in 2025 the majority of farm holdings do not have the facilities to store slurry and manure under cover, indicating further action is needed.²⁶⁷

The industry-led Red Tractor Assurance Scheme introduced a new standard for urea fertilisers in April 2024, with the aim of reducing ammonia emissions. This followed a Defra

consultation in 2021.²⁶⁸ A consortium of organisations proposed the industry-led approach, as it does not require regulations or a legally-enforceable ban. Defra suggest this approach could deliver reductions more quickly than regulatory approaches, assuming 100% compliance from members.²⁶⁹ However, the scheme was delayed. It was due to be in place by April 2023 and delivering emissions reductions by 2024.²⁷⁰ The scheme is promising, but Defra will need to closely monitor its effectiveness, and stand ready to intervene to ensure 2030 ERCs are met, for example by consulting on and implementing legislation.²⁶⁹

There has still been little progress to deliver on the commitment in the EIP23 to consult on bringing intensive beef and dairy installations into the Environmental Permitting Regime. This remains a significant regulatory gap. According to the Environment Agency, intensive pig and poultry farming are the only farming sectors regulated through the Environmental Permitting Regime. Together, pigs and poultry accounted for 18.6% of total ammonia emissions from UK agriculture in 2023, whereas cattle (beef and dairy) are the biggest source, representing 49% of total sectoral emissions.¹⁹⁶

Meanwhile, emissions from the spreading of anaerobic digestate continue to climb. While this source has been excluded from annual compliance reporting, and therefore does not impact achievement of ERCs, it still presents a hazard to human and environmental health and presents risks to other targets.²⁷¹

Table 3.3. Clean air – summary assessment of progress over the annual reporting period towards meeting targets and other commitments

EA21 targets	Progress
By the end of December 2040, the annual mean level of PM _{2.5} in ambient air must be equal to or less than 10 µg/m ³ (annual mean concentration target for PM _{2.5}).	Mixed
At least a 35% reduction in population exposure to PM _{2.5} by 31 December 2040 compared to the 2016–2018 baseline period (population exposure reduction target for PM _{2.5}).	Mixed
Other targets and commitments	
National Emission Ceilings Regulations emission reduction commitments.	Mixed
Air Quality Standards Regulations limits, targets and long-term objectives.	Mixed
Reduce damaging deposition of reactive forms of nitrogen by 17% over England's protected priority sensitive habitats by 2030 (Clean Air Strategy).	Limited

3.5. Prospects of meeting ambitions, targets and commitments

Overall, government remains partially on track to achieve the overarching vision to make the air healthier to breathe, protect nature and boost the economy. Significant improvements have been made to UK air quality in recent decades, largely due to improved regulation of industry, use of cleaner vehicles and a reduction in the burning of coal. However, evidence suggests that health impacts are observed at ever lower pollutant concentrations. The UK population is also ageing and urbanising, which will increase exposure and vulnerability.^{272–274} These factors will demand an increasing urgency and ambition over time to ensure government's aims to reduce the impacts of air pollution on public health are realised.

A summary assessment of the targets and commitments we assessed prospects towards is provided in [Table 3.4](#).

Emissions of air pollutants

The five ERCs set out in the NECR are partially on track. Over the last three years, the prospects of meeting 2030 ERCs has improved. Four of five were off track in 2022/2023, which has reduced to just ammonia for this annual reporting period. This gradual improvement for other pollutants is due to multiple factors, including new policies and adjustments to the inventory. For example, the ZEV mandate is now considered.

However, past trends for ammonia emissions have shown no statistically significant reduction over the short-term. There was some positive action over the annual reporting period with roll-out of the Red Tractor scheme standard for urea fertilisers, but there are persistent regulatory gaps and growing sources. Overall, the pace of action remains slow. More will need to be done beyond firm and funded measures to ensure the UK is on a path to meet the 2030 ERC for ammonia, particularly given that emissions from soil and slurry could be increased by higher temperatures driven by climate change.^{275,276}

The other four ERCs are currently largely on track. However, government will need to ensure that more entrenched and emerging sources of pollution are effectively monitored and managed to ensure they are met. These include potential trade-offs with net zero technologies, such as biomass combustion, use of alternative fuels such as ammonia and hydrogen, and anaerobic digestion.^{277,278} Currently there is not sufficient information on the growth of some of these sectors to make robust projections on their impact.

Further improvements to pollutant emissions are likely to slow, as many of the largest and most easily abated point sources are being addressed, and options to address diffuse sources are often more limited.¹⁸⁷ For example, some pollutants such as PM_{2.5} and ozone are longer lived and can travel further from their sources. This drives international transboundary emissions that are not directly reducible through domestic policy. A combination of local, national and international actions will be required as the relative importance of more diffuse sources grows.¹⁸⁷

Concentrations in ambient air

Because 2028 EA21 interim target levels continue to be met, the government remains largely on track to achieve the two EA21 PM_{2.5} targets. Progress over the annual reporting period has further improved prospects, for example reinstating the 2030 phase out date for new internal combustion engine cars, and the reductions seen in domestic combustion emissions. The 2030 ERC for PM_{2.5} is now also projected to be met.¹⁹⁴

Government's EIP rapid review also found better than expected improvements towards these targets. However, the rapid review noted that risks remain as PM_{2.5} is sensitive to factors such as weather conditions, transboundary pollution, and bounce-back behavioural change post pandemic lockdowns. In addition, a lack of progress in the agricultural sector presents a risk to the EA21 PM_{2.5} targets through the formation of secondary PM_{2.5}, which can contribute a significant proportion of ambient PM_{2.5} in urban areas.^{279–281} On this basis, it appears that further action will be needed to ensure target achievement.

Overall, government's 2017 plan for tackling roadside NO₂ is not delivering full compliance with the annual mean limit value for NO₂ in the AQSR. The 2017 plan originally estimated

compliance across all zones by 2026, 16 years after the legal compliance deadline passed in 2010.²⁸² While government anticipate the majority of zones to be compliant within four years, five are expected to remain in exceedance until 2032, and one until as late as 2045. Government expects that natural fleet turnover towards ZEVs may bring this forward.^{202,283}

Local NO₂ Plans have been effective in reducing NO₂ concentrations in some non-compliant air quality zones.²⁴⁵ However delays to both publication and implementation of plans in other areas continue to hamper prospects at a national level. In addition, there is no publicly available strategy to address poor air quality on the Strategic Road Network. According to 2024 Defra roadside data, road links reported as being in exceedance of the current limit value span just 6 km. This would increase to just under 3,000 km if the revised EU limit value were applied.²⁸⁴ These delays, alongside the limited ambition of some current standards, as well as concerns over local authority capacity and resources, present ongoing risks to public health.

Impact on the natural environment

Government is largely off track to achieve the Clean Air Strategy 2019 target to reduce nitrogen deposition on sensitive habitats by 17% by 2030. Overall, there has been limited progress to reduce pressures on ecosystems from nitrogen deposition in recent decades. This will have implications for wider environmental targets, as nitrogen deposition is considered one of the most serious threats to the integrity of biodiversity globally.²⁸⁵

There has been an 8.3% decrease in the total deposition of reactive nitrogen onto protected sensitive habitats in England between 2016 and 2021.²⁰⁶ If this trend were to continue, the 2030 nitrogen deposition target would be met. However, part of this reduction likely reflects pandemic lockdown restrictions, and recent projections show government is not on track to meet the 2030 ERC for ammonia.¹⁹⁴ Ammonia is the dominant source of excess nitrogen deposition, so meeting the 2030 ERC is paramount.^{193,286} More broadly, protecting the most sensitive habitats will also require spatially targeted measures alongside meeting ERCs.

Table 3.4. Clean air – summary assessment of prospects of meeting targets and other commitments

EA21 targets	Prospects
By the end of December 2040, the annual mean level of PM _{2.5} in ambient air must be equal to or less than 10 µg/m ³ (annual mean concentration target for PM _{2.5}).	Largely on track
At least a 35% reduction in population exposure to PM _{2.5} by 31 December 2040 compared to the 2016–2018 baseline period (population exposure reduction target for PM _{2.5}).	Largely on track
Other targets and commitments	
National Emission Ceilings Regulations emission reduction commitments.	Partially on track
Air Quality Standards Regulations limits, targets and long-term objectives.	Partially on track
Reduce damaging deposition of reactive forms of nitrogen by 17% over England's protected priority sensitive habitats by 2030 (Clean Air Strategy).	Largely off track

3.6. Opportunities for improvement

Effective action towards targets and commitments in this EIP23 goal supports government's missions to kick-start economic growth and build an NHS for the future. There are multiple opportunities that would contribute to these aims.

In recent years the UK's position as an international leader in tackling poor air quality has been eroded. Revocation of the statutory provisions relating to the NAPCP created transparency and accountability gaps.²²¹ Meanwhile, in recent years, international levels of ambition have surpassed the UK.¹⁸⁰

Government's commitments over the annual reporting period to delivering 'a comprehensive and ambitious Clean Air Strategy', in addition to determining whether targets are 'fit for purpose' are promising, however they do not represent a firm commitment to developing an updated strategy, or outline which targets are within scope.^{175,176,222–225}

Government has an opportunity to consider building on the findings of the EIP rapid review by reviewing targets and commitments, considering the current epidemiological evidence base, and developing a fully resourced, timebound delivery plan. This plan would demonstrate how an updated, coherent suite of long-term and supporting interim targets can be achieved. This would also be an opportunity to consider setting targets for emerging and less well-regulated pollutants such as ultrafine particulate matter and bioaerosols, as well as key supporting targets such as a long-term target for nitrogen deposition.²⁸⁷

To inform an updated Clean Air Strategy and ensure it is fully resourced, government should carry out a comprehensive review of the capacity of key delivery partners, such as local authorities. We recognise government's programme of engagement with local authorities to better understand the practical challenges faced in delivering air quality improvements.¹ However, the Air Quality Strategy committed to carrying out a full audit of local authority powers and barriers to delivery.¹⁸⁴ Such an audit would provide an opportunity to review the current funding model, given the challenges short-term funding cycles present to local authority planning and delivery.

We also welcome government's decision to establish the Emission Reduction Subgroup, which will assess progress towards targets, and could be used to facilitate adaptive decision-making where they are deemed to be off track or missed. However, there is still some uncertainty on the scope of the planning and analysis to be performed. There is an opportunity for government to further address the current accountability and transparency gap by strengthening the role of the Emission Reduction Subgroup by committing to make outputs available for public scrutiny and clearly setting out the role the group will play in delivery planning.

Overall, neither the Emissions Reduction Subgroup nor a potential update to the Clean Air Strategy would be on a statutory footing which presents a risk to long-term delivery. However, if used and developed effectively and coherently, these levers could still improve outcomes for human health and enhance prospects of meeting current targets and commitments.

Many of the opportunities and recommendations set out in our previous assessments remain valid. Sector-specific issues are highlighted throughout and present opportunities to improve prospects of achieving targets and commitments. For example, these include addressing persistent delays to the approval and implementation of Local NO₂ Plans, as

well as gaps in the management of emissions from key sources in the agriculture and road transport sectors.

Recommendations for clean air

In our 2022/2023 progress report we made four recommendations relating to information and engagement, local authorities, accountability, and the policy framework including limit and target values. Progress to date has been good, mixed and limited so these issues are reflected in subsequent recommendations.

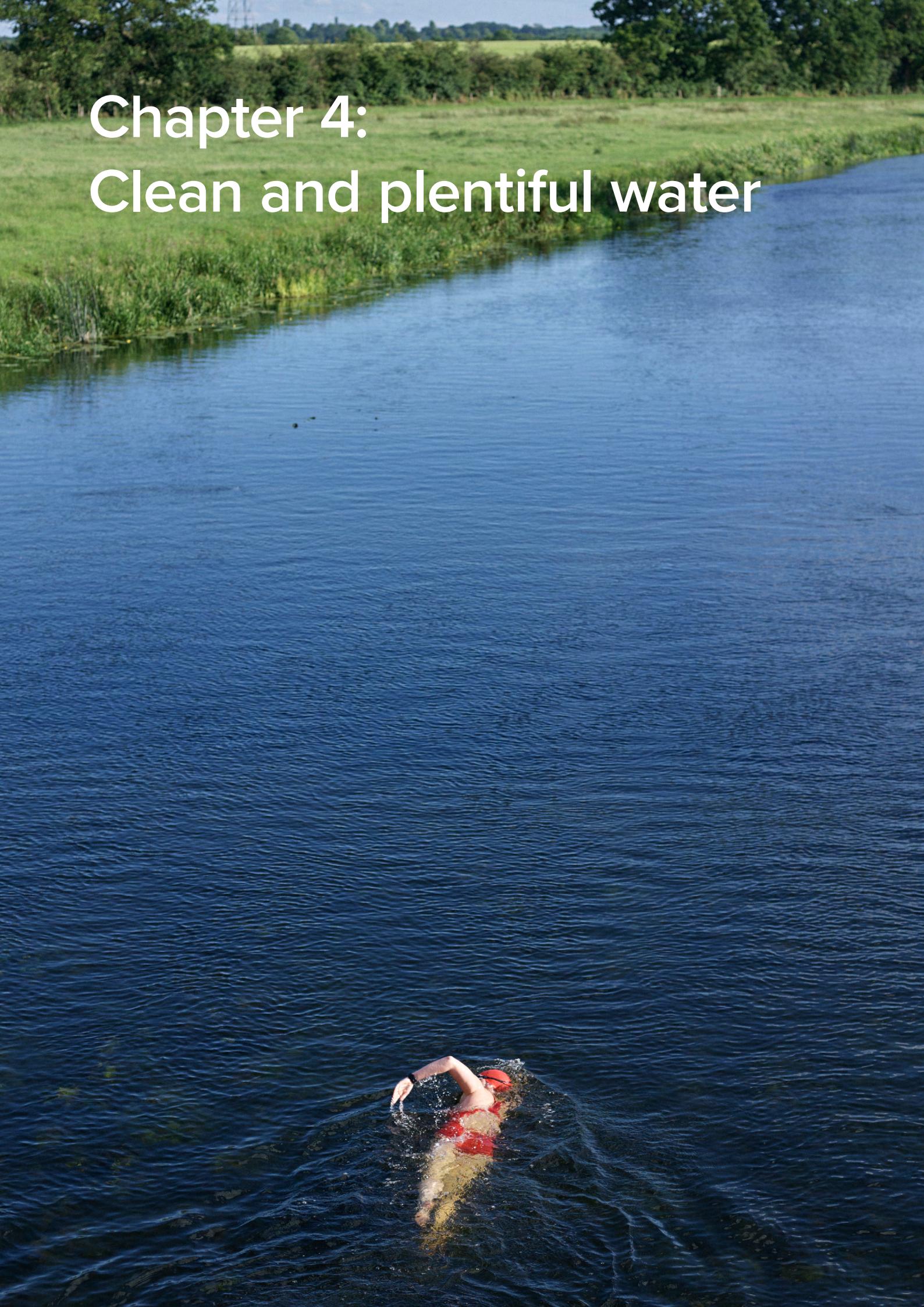
In our 2023/2024 progress report we made three recommendations.

Government has partially accepted our recommendation on carrying out a comprehensive audit of local authority powers and barriers to delivery. Progress during the annual reporting period has been mixed as there has been some engagement with local authorities but no formal audit has been published. Therefore, this recommendation still stands.

Government has deferred a response to our recommendation on updating the Clean Air Strategy while addressing weakened accountability and transparency. Progress during the annual reporting period has been mixed and government stated that no decisions have been taken on replacing the National Air Pollution Control Programme. Therefore, this recommendation still stands.

Government has rejected our recommendation to consider a review of statutory air quality standards to improve public health outcomes. Progress during the annual reporting period has been limited. However, government has stated that they will consider WHO guidelines and other countries' targets when considering future long-term targets. Therefore, this recommendation still stands.

Chapter 4: Clean and plentiful water



Chapter 4: Clean and plentiful water



4.1. Summary assessment

Government has made it a priority to clean up Britain's rivers, lakes and seas. Clean and plentiful water is essential for human health and wellbeing, biodiversity and the economy. Progress will take sustained effort and is likely to require new measures, as well as proven approaches, to deliver short-term progress and enduring recovery.

Public dissatisfaction remains high and environmental trends are mixed. There are reductions in pollution from sewage treatment works and in water consumption. However, wider trends are dominated by a lack of improvement. Water pollution incidents are on the increase. Risks of diffuse pollution from agricultural soils are not reducing, whilst the quality of bathing waters has declined.

Progress is evident towards Environment Act 2021 (EA21) targets where delivery relies mainly on the water industry, though clearer links between planned investment and broader targets and commitments are needed. Meanwhile, actions across other major pressures are less encouraging, particularly on key sources of urban and rural diffuse pollution and on the physical modification of surface waters.

Achieving clean and plentiful water will require continued momentum where progress is good, while significantly scaling up delivery to address pressures that limit the prospects of achieving wider targets and commitments. Meeting the Water Framework Directive Regulations Environmental Objectives and the Environment Act 2021 agriculture water target are particularly challenging and largely off track.

Regulatory reform in response to the Independent Water Commission presents an opportunity to enhance long-term planning and delivery, but this must be matched by increasing implementation to prevent further delays. Many of the challenges are rooted in the implementation of the laws and regulations, rather than the regulations themselves and an urgent need to get nature-friendly farming right.

Table 4.1. Clean and plentiful water – summary assessment

Past trends	Trends are varied with public water supply consumption and treated sewage pollution levels reducing. Soil nutrient balances are deteriorating, increasing diffuse pollution risk. Pollution incidents from sewage and other sources have increased. The overarching trends on the state of the water environment remain static.	Trends show a mixed picture
Progress in the reporting period	There has been more progress against EA21 targets and commitments to tackle treated and untreated sewage and reduce water supply demand. A lack of progress still dominates wider pressures such as agriculture, which limits outcomes.	Mixed
Prospects of meeting ambitions, targets and commitments	Despite signs of short-term progress, there remains a lack of coherent, detailed delivery plans to address all major pressures, and there is insufficient action directed towards achieving the EA21 agriculture water target and Water Framework Directive Environmental Objectives.	Largely off track
Robustness	The assessment has primarily used publicly available evidence, commissioned research on farming regulations and agricultural diffuse pollution actions, expert judgement and our implementation review of the Water Framework Directive Regulations and Bathing Water Regulations 2013.	

4.2. Context and commitments

The condition of England's water environment remains a significant concern. Increasingly frequent extreme weather events expose the fragility of water infrastructure and ecosystems, placing pressure on efforts to achieve clean and plentiful water.

The last year has seen government develop three building blocks for change. First, the Water (Special Measures) Act was enacted in February 2025, aiming to enhance the regulation and governance of water and sewage companies in England and Wales.^{288,289} Second, there has been a record increase in investment to enable companies to scale up and accelerate actions to improve services, reduce water supply risks and protect and improve the natural environment.²⁹⁰ Last, an independent review of the water sector regulatory system.

In October 2024, government established an Independent Water Commission, chaired by Sir Jon Cunliffe, to undertake a comprehensive review of the water sector and its long-term planning. The Commission's final report was released in July 2025 and calls for a fundamental reset of the UK water sector.²⁹¹

In response to the Commission's report, the Secretary of State announced that government would abolish Ofwat and 'bring water functions from four different regulators into one'.²⁹² Furthermore, an interim strategic policy statement will set out the government's priorities for Ofwat's regulation of the water sector in the meantime.

It was also announced that government would establish a new statutory water ombudsman, end operator self-monitoring, and include a 'regional element within the new regulator to ensure greater local involvement in water planning'. For the remaining recommendations, government has committed to publish a White Paper and launch a consultation on it. Following that, it would bring forward a new water reform bill.

Alongside commissioning and responding to the review, government has progressed with actions to clean up rivers, lakes and seas. It has published a revised National Policy Statement for water resources infrastructure in England, setting out the need and government's policies for developing nationally significant infrastructure projects for water resources.²⁹³

Following amendments to the Water Industry Act 1991 that came into force in September 2024, there is now a statutory obligation for sewerage undertakers in England to prepare, publish and maintain a Drainage and Wastewater Management Plan.²⁹⁴ These new statutory plans will be important in delivering commitments under the Storm Overflows Discharge Reduction Plan²⁹⁵ to reduce sewer overflows, and obligations under the Bathing Water Regulations 2013.²⁹⁶ These will support identified bathing waters meet at least a 'sufficient' standard, with reasonable and proportionate measures taken to increase the number classified as 'good' or 'excellent'.

The roll-out of environmental land management (ELM) and other grant schemes, alongside increased monitoring and compliance of farming regulations, provides for further action towards tackling agricultural diffuse pollution.

These actions are all in the context of wider system level changes needed to address competing pressures whilst maintaining water security, growth, housing development and balancing the needs of the environment. A separate independent review of the environmental regulatory landscape led by Dan Corry further sets out recommendations

for reform of regulations related to the Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 (WFD Regulations); the Reduction and Prevention of Agricultural Diffuse Pollution (England) Regulations 2018 (the Farming Rules for Water); and the Environmental Permitting (England and Wales) Regulations 2016.²⁰

Tangible improvements will require sustained implementation over decades to take full effect and build on action toward achieving the WFD Regulation Objectives, as well as the Environment Act 2021 (EA21) targets and interim targets addressing pressures in the water environment, relating to potable water demand and leakage, and pollution from wastewater, agriculture and abandoned metal mines.²⁹⁷

4.3. Key environmental trends

Overall state of the water environment

A summary assessment of the key trends we assessed is provided in [Table 4.2](#). There are mixed trends overall across the water environment. As of 2019, 16% of surface water bodies were at Good Ecological Status or Potential (or higher), with 79% of individual elements underpinning the classification also at ‘good’.²⁹⁸ Only 8% of small standing waters were found to be in a healthy state when last assessed.²⁹⁹ We consider trends in chemical status under the WFD Regulations further in [Chapter 5](#).

There is evidence that, while some measures of river quality are improving, the most diverse and least impacted streams are declining in quality.³⁰⁰ Furthermore, trends in small waters, which make up a large proportion of the water environment, remain poorly understood.^{301,302}

The next comprehensive update of classifications of water bodies under the WFD Regulations, is due in 2025.³⁰³ The update will provide new monitoring data to assess progress. Timely monitoring is crucial for the Programme of Measures, to inform both the River Basin Management Plans and operational decision making.

The WFD Regulations monitoring programme is also important in monitoring progress towards both EA21 species abundance targets, where around a quarter of the species in the underpinning index are freshwater. The WFD Regulations classification for 2019 shows that 76% of invertebrates and 43% of fish are classed at good status. Whilst not directly comparable, the relative abundance of invertebrates and fish species groups in the index has shown a decline over the last decade.³⁴

The hydrological and morphological condition of surface waterbodies are a major constraint on improving the health of freshwater species. Under the WFD regulations, less than half of water bodies have physical habitat modification pressures that limit Good Ecological Status and Potential. However, wider evidence suggests that this is a chronic pressure. For example, River Habitat Surveys for river water bodies in England show that around half of channel sections surveyed in water bodies that are not designated as heavily modified or artificial water bodies were classed as having significantly or severely modified channel habitats.³⁰⁴ Furthermore, river obstacles to the movement of fish, such as weirs, are widespread across all surface water bodies.³⁰⁵

Clean water

Overall, pollution incidents have increased over the last five years although 2024 shows a small reduction compared to 2023. The last two years have been in the top ten wettest years on record contributing to observed trends.³⁰⁶ Pollution incidents come from varied sources, including sewage and agricultural as well as from oil and fuel spills.

In relation pollution incidents caused specifically by the operations of water and sewage companies, the trend differs and show a further increase in pollution incidents in 2024 compared with 2023.³⁰⁷ This trend is likely to make it increasingly challenging for water and sewage companies to reduce acute pollution risks.

The condition of bathing waters has deteriorated, with the proportion achieving at least 'sufficient' standard dropping to 92%, which is statistically significant.³⁰⁸ In part this is due to some of the additional 27 sites identified being classified as 'poor'.

The continuous loads discharged to rivers from water company sewage treatment works in England through consented sewage treatment discharges, shows an overall decrease in pollution loads, although there are mixed trends between 2020 and 2024 across the pollutants. While phosphorus has reduced, ammonia loads have not reduced further and Biological Oxygen Demand has increased. High levels in surface waters can indicate pollution from organic waste, deplete dissolved oxygen and harm to aquatic life.^{309,310}

Nutrient inputs of nitrogen and phosphorus to agricultural soil from 2019 to 2024 vary from year to year. Overall there is a deterioration in the levels of nutrients in agricultural soils available for leaching and run-off. This trend provides a partial proxy for the associated risk of nutrient pollution run-off into the wider environment.³¹¹

Monitoring of pollution from metal mines for the EA21 abandoned metal mines water target substances of arsenic, cadmium, copper, lead, nickel and zinc is not available as an indicator in the Outcome Indicator Framework. However in March 2025 the Environment Agency published its baseline monitoring, which confirms that the baseline length of rivers and estuaries polluted by one or more of the target substances from abandoned metal mines is 1,491 km.³¹²

This revised baseline will be compared with the polluted length measured in 2038 to assess whether the statutory target has been achieved. In practice, the polluted length of rivers will vary with hydrological conditions, although the March 2025 baseline provides the best estimate of the length of rivers and estuaries considered to be polluted.

Plentiful water

Public water supply consumption from water treatment works into the supply system consists of three principal components: household demand, non-household demand and leakage. Droughts in 2025 following one of the driest springs on record are likely to make reducing demand in the short-term challenging ([Figure 4.1](#)).

From 2018/2019 to 2023/2024, all three components have decreased. Both leakage and the largest component of potable water, household demand have decreased with statistical significance. Non-household water consumption from industry and businesses (approximately one-fifth of supply) has also decreased although the change is not statistically significant.

Water company security of supply performance provides a broader understanding of water company resilience to extreme weather events. Between 2020/2021 and 2023/2024 there was little or no change in performance across England.

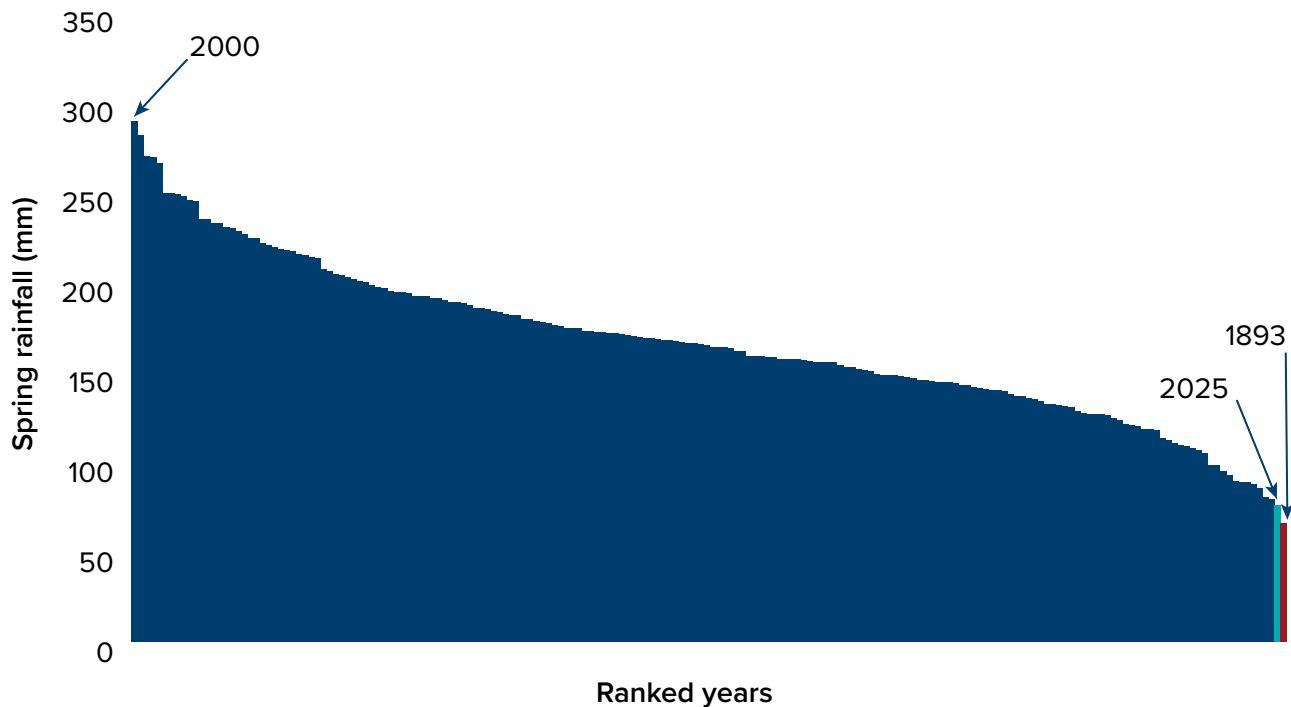


Figure 4.1. Spring rainfall ranked by total volume from records including all years from 1893 and 2025 (total rainfall in mm).³⁰⁶

A summary assessment of the key trends we assessed is provided in [Table 4.2](#).

Table 4.2. Clean and plentiful water – summary assessment of key trends

Indicator	Indicator trend	Trend time period
State of the water environment (Water Framework Directive Regulations good ecological status)		2015–2019
Loads discharged to rivers from water company sewage treatment works (of three key pollutants)		2020–2024
Condition of bathing waters		2018–2024
Pollution incidents to water (Environment Agency categories 1–3)		2019–2024
Water leakage in England (from water company potable water supply)		2018/2019–2023/2024
Non-household water demand		2018/2019–2023/2024
Per capita potable water consumption in England		2018/2019–2023/2024
Water company security of supply performance		2020/2021–2023/2024
Soil nutrient balance		2019–2024

4.4. Progress towards ambitions, targets and commitments

Our 2022/2023 progress report highlighted the need to ensure that all major pressures on the water environment are addressed proportionately. This means government must address imbalances in delivery and scale up actions across all major pressures.

Last year, we assessed good progress in tackling pollution from the water industry, along with some progress observed in addressing agricultural pollution. However, limited progress had been made in scaling up actions that address other major pressures. This year, progress towards meeting targets and commitments is similarly mixed. Furthermore, the extent to which record investment by the water industry contributes to key targets and commitments remains a significant uncertainty due to lack of timely evidence and lack of transparency.

The APR 2025 presents 12 actions covering a wide range of areas.¹⁶⁵ However, it continues to omit important actions undertaken during the annual reporting period and so provides an incomplete picture of progress. For example, progress made in the annual reporting through National Highways 2030 Water Quality Plan³¹³ are absent despite this being an emerging area of risk to account for.

A summary assessment of the targets and commitments we assessed progress towards is provided in [Table 4.3](#), with further detail provided below.

Overall state of the water environment

The APR 2025 reported limited action to tackle pressures from physical modifications to rivers, lakes and coastlines. Physical modifications can directly impact water quality and ecological responses to wider pressures and directly impact ecology through changes to physical habitat. The £11.5 million funding from the Water Environment Improvement Fund,³¹⁴ will make localised contributions, however substantially more is required to achieve the WFD Regulations Objectives by 2027. Action does not appear to match the scale of the problem especially considering physical habitat modifications are one of the largest identified pressures.

Furthermore, the OEP has launched an investigation into possible failures by Defra and the Environment Agency to comply with the WFD Regulations.³¹⁵ This follows a report by the OEP into the implementation of the WFD Regulations, which found that issues with implementation meant the WFD Regulations Objectives due to be achieved by 2027 were highly likely to be missed.³¹⁶ Key issues identified in the report included plans that are too generic and therefore do not address specific issues at individual sites, and plans being put in place despite low government confidence that their objectives can be achieved. The investigation will determine whether those issues raised in the report represent failures to comply with environmental law.

The Pickering Judgement aligns with many of the issues raised by the OEP in its report.³¹⁷ The Court of Appeal dismissed the appeal by the Secretary of State and confirmed that in order to comply with the WFD Regulations, a Programme of Measures must identify a programme or scheme of actions for each water body in order to achieve the relevant Environmental Objectives for that water body. A ministerial statement released in July 2025 outlines the intention for river basin management plans to comply with the judgment.³¹⁸

Monitoring progress towards the WFD Regulations Objectives and wider goals and targets continues to be problematic. We have observed limited progress in government addressing our previous recommendation to publish a comprehensive and transparent monitoring programme for the water environment, to fulfil the monitoring obligations under the WFD Regulations,³¹⁹ meet wider ambitions as well as maintain adequate monitoring of current and emerging major drivers. This evidence base is essential to evaluate whether measures being implemented are having a measurable beneficial impact on the water environment.

Clean water

Sewage and wastewater pollution

Despite short-term trends showing a less favourable trajectory of pollution incidents, good progress continues towards the achievement of water industry oriented targets and commitments. These include the EA21 wastewater target, that the load of total phosphorus discharged into freshwaters from relevant discharges is, by 31 December 2038, at least 80% lower than the 2020 baseline (and corresponding EA21 interim target). During Asset Management Plan period 7 (AMP7), 82% of all planned phosphorus improvement schemes were completed by April 2025 (770 of 936), with the remaining number frontloaded into AMP8.⁴⁹

The record investment in AMP8 continues to contribute towards the commitment that by 2050 water companies will only be permitted to discharge from a sewer overflow where they can demonstrate that there is no local adverse ecological impact. Our investigation into the regulation of combined sewer overflows found that the relevant public authorities (Defra, the Environment Agency, and Ofwat) have taken steps in response to the OEP's recommendations.^{320,321}

Defra has replaced outdated guidance with a new policy and guidance document that better reflects the legal duties of sewerage undertakers.³²² Ofwat has revised its enforcement guidance and taken enforcement action against several water companies.^{323,324} Meanwhile the Environment Agency has updated its Storm Overflow Assessment Framework and progresses with plans to modernise permits and introduce spill limits.³²⁵

More generally, progress has been demonstrated on cross-cutting issues, such as the clarification of roles and responsibilities between the three authorities and with improvements to the assessment of cost-effective solutions for reducing discharges from combined sewer overflows.

However, the coherence of reducing wastewater pollution outcomes with other important targets and commitments such as the WFD Regulations environmental objectives remains uncertain. The National Audit Office concurrently concludes that Defra has not assessed the deliverability of its overall ambitions.³²⁶ This echoes findings from the Independent Water Commission which calls for a new, long-term, cross-sectoral, and systems-focused National Water Strategy for England and Wales.

The Water Industry National Environment Programme (WINEP) does provide some clarity around water industry specific actions. The programme sets out actions for water companies operating in England to complete between 2025 and 2030 to contribute towards meeting their environmental obligations. Action to address storm overflows through the Storm Overflows Discharge Reduction Plan, account for around half of all actions in the WINEP.³²⁷

Actions in the WINEP are categorised by drivers and are aligned to environmental objectives. However current reporting still makes it difficult to ascertain how drivers and objectives through the WINEP align with wider environmental goals of clean and plentiful water and thriving plants and wildlife. The Environment Agency is making information more accessible. For example, in developing a spatially representative version of the WINEP actions.³²⁸ More broadly, in the next cycle of river basin planning, a set of River Basin Management Plans and Programmes of Measures containing specific measures to be taken at water body level to achieve multiple environmental outcomes would enable greater coherence.

Water industry investment is also relevant to delivery of the obligation to ensure that all identified bathing waters are classified as at least 'sufficient' standard while seeking to increase the number which are 'good' or 'excellent' standard. The WINEP programme includes 102 actions, to prevent deterioration and improve the status of bathing waters, with around one third of actions aiming to improve waters to 'good' or 'excellent' standard.

Whilst we assess progress to be good regarding water industry actions, our assessment demonstrates limited progress to spatially target and reduce agricultural contributions towards the 'poor' condition of bathing waters. Overall we assess progress to be mixed. We welcome government's commitment to reform the Bathing Water Regulations 2013,

including extending the bathing water season to better account for the use of surface waters for recreation.³²⁹

Diffuse pollution

Last year, we assessed that government will need to put in place further action to reduce agricultural diffuse pollution to support the EA21 agriculture water target (that the load of each of total nitrogen, total phosphorus, and sediment, entering the water environment through agricultural diffuse pollution is, by 31 December 2038, at least 40% lower than the 2018 baseline year), and both associated EA21 interim targets. There has been notable progress made over the last year but not at the necessary scale required. We assess progress as mixed.

The uptake of agri-environment schemes, in particular the Sustainable Farming Incentive soil management measures has continued to increase. Furthermore, the Environment Agency has maintained the monitoring and enforcement of agricultural diffuse pollution regulations. Between 2024-2025, the Environment Agency conducted over 4,500 inspections.⁴⁹ These numerically account for a small proportion of farm businesses although inspections are prioritised based on farm type and spatial risks (we consider this further in [Chapter 12](#)).

Spatial planning and prioritisation of diffuse pollution measures on protected sites have improved through development of Diffuse Water Pollution Plans (in accordance with a consent order agreed following judicial review proceedings in 2015.³³⁰ Natural England and the Environment Agency finalised twenty-nine Diffuse Water Pollution Plans. However this represents a small proportion of the approximately 200 protected sites where a Diffuse Water Pollution Plan mechanism has been identified.

Our initial review of important agricultural diffuse pollution regulations found supporting guidance to implement them is generally unclear.³³¹ Furthermore, the OEP launched an investigation in relation to alleged failures by the Secretary of State in guidance on applying the Farming Rules for Water.³³² The Statutory Guidance contained statements which were inconsistent with regulation 4(1)(a)(i) of the Farming Rules for Water and which we considered encouraged land managers to breach their legal duties under the Farming Rules for Water.

In November 2024 Defra undertook a rapid review of the Statutory Guidance. Revised Statutory Guidance was subsequently published in June 2025 ('Amended Statutory Guidance').³³³ In our investigation report,³³⁴ we set out our findings that Defra failed to comply with environmental law when issuing and promulgating the Statutory Guidance from its issue on 30 March 2022 until its amendment on 18 June 2025. Our conclusion was that the Amended Statutory Guidance addresses the identified failures to comply with relevant environmental law. Furthermore, we understand government will be reviewing the wider set of regulations concerning agricultural diffuse pollution as part of its wider regulatory reform programme.

Another diffuse pollution source is runoff from urban areas and roads, with 18% of waterbodies identified as not achieving Good Ecological Status or Potential, in part due to this pollution source.³³⁵ National Highways published their 2030 Water Quality Plan in August 2023 which aims to address pollution from the strategic road network.³¹³ National Highways initially identified 1,236 potential high-risk polluting outfalls and soakaways. Of these, National Highways have verified around 180 to date as high risk and anticipate this

rising to around 250 outfalls and soakaways.³³⁶ This represents a small number of the approximately 15,000 outfalls and 6,600 soakaways on the strategic road network.

National Highways are undertaking further analysis and research and development to improve understanding of pollution risks across the wider network, such as a review of emerging pollutants and refinement to risk assessment tools. It will however take time for new evidence to influence pollution mitigation strategies with further outfall risks to be addressed over the fourth Road Investment Strategy period (2031–2035).

Roads managed by local authorities require similar action. We have found limited evidence to show coherent action in addressing runoff beyond the strategic road network. Our assessment of Local Nature Recovery Strategies, many of which are developed by local authorities, found that there was generally incomplete coverage of nature recovery requirements across major environmental domains such as freshwater and marine.⁶⁶

Metal mine pollution

Progress is mixed towards the EA21 abandoned metal mines water target that the length of relevant waters polluted by arsenic, cadmium, copper, lead, nickel and zinc from abandoned metal mines is, by 31 December 2038, at least 50% lower than the baseline year of 2022. The Environment Agency has determined that for the purposes of the statutory target, the baseline is 1,491 km giving a minimum reduction of 746 km.³¹²

The construction of diffuse interventions to meet the EA21 abandoned metal mines water interim target to install 20 diffuse interventions to control inputs of target substances by 31 January 2028 has progressed rapidly. However, the current pace of construction of new mine water treatment schemes, of one per year since the target was set in January 2023, needs to be accelerated to achieve the EA21 abandoned metal mines water interim target to construct eight mine water treatment schemes. These treatment schemes provide the greatest treatment capacity and potential to achieve the EA21 abandoned metal mines water target. The pace of construction must increase in future years to achieve both the interim and long-term EA21 targets.

Furthermore, APR 2025 demonstrates no progress towards unblocking future constraints in delivering the EA21 abandoned metal mines water target, in particular the development of catchment monitoring studies. In our 2023/2024 progress report, we outlined the importance of developing a steady pipeline of metal mine catchment monitoring studies by 2030, which would help identify delivery solutions towards achieving the long-term target in 2038. Major uncertainty also remains around the achievability of the target with environmental quality standards in some metal mine catchments exceeding the natural baseline concentrations of the river.

Plentiful water

Water companies have published their statutory Water Resources Management Plans for AMP8. This provides further clarity on how they will meet long-term risks in water supply. Actions include the development of reservoirs, water transfer schemes, leakage reduction and demand management of both household and non-household schemes.⁴⁹

With positive trends in all three components of water demand (household demand, non-household demand and leakage), this shows overall progress in planning and implementing actions towards the EA21 target to reduce the volume of potable water supplied per day per

head of population in England, by 31 March 2038, to at least 20% lower than the baseline financial year of 2019 (and corresponding EA21 interim targets).

Table 4.3. Clean and plentiful water – summary assessment of progress over the annual reporting period towards meeting targets and other commitments

EA21 targets	Progress
Reduce nitrogen (N), phosphorus (P) and sediment pollution from agriculture into the water environment by at least 40% by 2038 compared to a 2018 baseline (agriculture water target).	Mixed
Reduce phosphorus loadings from treated wastewater by 80% by 2038 against a 2020 baseline (wastewater target).	Good
Halve the length of rivers polluted by harmful metals from abandoned mines by 2038, against a baseline of around 1,500km (abandoned metal mines water target).	Mixed
Reduce potable water demand in England per head of population by 20% from the 2019/2020 baseline reporting figures by 31 March 2038 (water demand target).	Good
Other targets and commitments	
Each body of surface water to achieve or maintain good ecological status or potential by 2021 or the revised objective date of 2027 for 77% of surface waters. ³³⁷	Limited
[By 2050] water companies will only be permitted to discharge from a sewer overflow where they can demonstrate that there is no local adverse ecological impact. ²⁹⁵	Good
Ensure that all bathing waters are classified at least as 'sufficient' (deadline passed at the end of the bathing season in 2015). ²⁹⁶	Mixed

4.5. Prospects of meeting ambitions, targets and commitments

We consider the comprehensive review of the water sector and its long-term planning by the Independent Water Commission, chaired by Sir Jon Cunliffe, to be a once in a generation opportunity to improve the state of the water environment. The OEP has engaged with the Commission in its work, responding to a call for evidence in February 2025. The OEP submitted its input in April 2025, drawing on its findings on the WFD Regulations, Bathing Water Regulations, regulation of combined sewer overflows, and Environmental Improvement Plan (EIP) progress reviews.³³⁸

The Commission's final report was released in July 2025.²⁹¹ The report calls for a fundamental 'reset' of the UK water sector and sets out 88 recommendations intended to restore public trust in the water industry and its regulation; facilitate investment for water sector and environmental improvements; and establish a resilient framework to meet future water demand. It makes several recommendations that have significant implications for environmental oversight and regulatory practice. Box 4.1 illustrates some of the key recommendations.

While we acknowledge the opportunities afforded by the recommendations set out in the review, we will further assess the implications towards achieving outcomes when government incorporates reforms through the White Paper on water reform as well as

through EIP25 and other policies. A summary assessment of the targets and commitments we assessed prospects of meeting is provided in [Table 4.4](#), with further detail provided below.

Box 4.1. Extract of Independent Water Commission recommendations

The UK and Welsh government should each bring forward a new, long-term, cross-sectoral, and systems-focused National Water Strategy for England and Wales respectively (Recommendation 1).

A comprehensive systems planning framework should be introduced for England and Wales, with responsibility for integrated and holistic water system planning. In England, the systems planners should be regional (Recommendation 3).

The UK and Welsh governments should review the current water legislative framework and amend it accordingly.(Recommendation 8, with additional specific recommendations to update and reform the Urban Waste Water Treatment (England and Wales) Regulations 1994 in Recommendation 9; consult on reforms to the WFD Regulations, including broadening the scope to include public health outcomes in Recommendation 11; and, in England, the review of the legislative framework should take forward the concept of ‘constrained discretion’ for the regulator in Recommendation 14.) As part of this review, the Commission says that a ‘new, overarching long-term target is needed for water body health, to replace the current GES [Good Ecological Status] target’ (paragraph 197), although it does not make a specific recommendation to set a target or suggest what such a target should be.

The UK Government should establish a new integrated regulator in England. This should combine the functions of Ofwat and DWI [Drinking Water Inspectorate] with all of the water regulatory functions from the Environment Agency (apart from flooding) and Natural England (Recommendation 16).

Planning processes in England should be updated to support the timely delivery of water industry infrastructure (Recommendation 73).

Overall state of the water environment

Overall prospects of meeting the WFD Regulations Objectives remain largely off track. Actions within the annual reporting period, alongside new and revised plans and strategies do not provide a clear pathway or a coherent and detailed plan for achievement.

We have previously recommended that government, in seeking to extend the reach of catchment-based approach partnerships, should more clearly define their roles and functioning, and then organise and fund them so they can deliver as intended.³¹⁶ Local Nature Recovery Strategies were an opportunity to provide coherent direction. However our initial assessment of their development show that there has been limited coherence so far with priorities in the water environment, with a focus on terrestrial biodiversity.⁶⁶

The increase in investment through the latest water industry price review is broadly in line with the investment requirements previously identified by the Environment Agency.³³⁹²⁹⁰ However, greater clarity is needed on the expected outcomes associated with these investments.

As presented in our 2023/2024 progress report, wider investment and action does not appear to be adequate or sufficiently balanced to address all major pressures. There is demonstrable progress in determining the cause of physical modification pressures constraining Good Ecological Status or Potential in most water bodies.³³⁵ But there is a lack of progress on implementation. Actions in APR 2025 continue to show an imbalance. For example, there are more actions aimed at tackling intermittent discharges compared with physical habitat modifications, despite these discharges being identified as a relatively smaller yet higher profile pressure. The fourth round of river basin management plans due to be published for consultation in 2026 is a major opportunity to address these deficiencies.

In relation to bathing waters, since 2015 the number of bathing waters classified as at least ‘sufficient’ has ranged from approximately 92–99%.³⁰⁸ The government is close to achieving the target that should have been met by the end of September 2015 of ensuring all bathing waters are classified at least at ‘sufficient’ standard. However, a decade has passed since the target deadline with 2024’s classification showing we are now further away from achieving it. We still assess the prospect of meeting the target to be partially on track due to the investments from the water industry. However, pressures beyond the water industry need to be tackled at scale. Furthermore, the achievement of ‘good’ or ‘excellent’ classification is relatively low considering comparable EU countries.

Clean water

Sewage and wastewater pollution

Progress in the annual reporting period aligns with both the investment and delivery trajectory requirements of the EA21 wastewater target (and corresponding EA21 interim target), meaning the prospect of meeting this target (and corresponding EA21 interim targets) remains largely on track. As observed from the trend analysis on the load from wastewater discharges, noticeable reductions in load have occurred, and it is anticipated that these will continue over the next Asset Management Plan cycle.

Similarly, the investment set out in the price review for reducing sewer overflows appears proportionate to the requirement set out in government’s Storm Overflows Discharge Reduction Plan.^{290,295} The overarching target is that, by 2050, ‘water companies will only be permitted to discharge from a storm overflow where they can demonstrate that there is no local adverse ecological impact’. Our latest trend assessment shows pollution incidents to have overall increased rather than decreased. Similarly, the frequency of sewage spills recorded by event duration monitors between 2023 and 2024, has increased across half of the water and sewage companies, despite reductions in rainfall in 2024.^{306,340}

Achieving noticeable improvements will be a long-term endeavour. The Thames Tideway Tunnel provides an example of the extended time required to build significant infrastructure. Planning was approved in 2014 with finalisation of the tunnel completed in 2024.³⁴¹

Government’s progress report on the implementation of the Storm Overflows Discharge Reduction Plan outlines the actions taken so far.³⁴² A review of the plan itself is due in 2027. Ahead of this review, it is not possible to conclude whether the plan will fully deliver the target, and we assess prospects to be partially on track. Further evidence gathering and research is needed to increase confidence on the prospects of meeting the target, in particular understanding the short term trends in pollution incidents in the context of extreme weather events.

Diffuse pollution

There were deteriorating trends in nitrogen and phosphorus levels in soils between 2019 and 2024. Our assessment last year outlined that the prospects of meeting the EA21 long-term and interim agriculture water targets are largely off track, given current policies and measures deployed by government. The targets remain difficult to achieve without substantial increases in compliance with farming regulations and further changes in how land is used and managed.

The Environment Agency has received funding to increase the level of regulatory inspections of farms by 50%.³⁴³ The effectiveness of this increase will be maximised by sustaining a high level of compliance monitoring, in addition to continuous evaluation and learning on the effectiveness of the underpinning regulations and their implementation.

Last year, we highlighted the lack of strategic spatial prioritisation and land-use planning as a major barrier to effectively reducing agricultural diffuse pollution. A lack of strategic spatial prioritisation continues to stifle the effectiveness of agri-environment schemes generally and specifically with regards to Protected Sites.

There are around 200 Sites of Special Scientific Interest where a Diffuse Water Pollution Plan is identified as a mechanism to improve their condition. Natural England and the Environment Agency have focused on developing and delivering plans at a third of these sites since 2015. There is less certainty around the remaining two thirds of sites that may require a plan. At the current pace, it would take decades to implement plans across all sites.

Government launched a consultation on land use in 2025.³⁴⁴ Our response is summarised in [Chapter 13](#). We welcome the prospect of a more coherent approach to land use policy and spatial prioritisation, and we find much to welcome in the proposed framework. The consultation sets out the major changes in land-use and land management that would be required to achieve nature recovery, net zero and growth. The scale of change identified broadly aligns with our own assessment regarding land-use and land management changes needed to substantially reduce agricultural diffuse pollution. The consultation however exposes a considerable gap in explicitly considering the effects on agricultural nutrient runoff into the water environment.³⁴⁵

Metal mine pollution

In relation to minewater pollution, there is an EA21 interim target to construct eight minewater treatment schemes and 20 diffuse interventions to control inputs of target substances to rivers by 31 January 2028. Diffuse interventions, composed of simpler measures to limit metals being washed out of contaminated mine wastes by rainfall and river erosion, can be installed relatively quickly compared to large, complex minewater treatment schemes. Progress has been encouraging in deploying these interventions.

Treatment schemes require extensive scoping, planning, design and construction. There has not been significant progress in constructing treatment schemes. The Mine Remediation Authority (previously named the Coal Authority) has on their separate coal mine water programme been able to construct up to four minewater treatment schemes a year, compared with the two built so far towards the EA21 abandoned metal mines water interim target. With an increase in pace, there is still time for the number of schemes needed to achieve the interim target. The prospect of meeting the EA21 interim target is only partially on track without an increase in scale and pace.

Further progress towards the EA21 abandoned metal mines water target requires the Environment Agency to complete additional catchment monitoring studies by 2030 to identify priority sources of metal pollution, alongside steady design and construction of remediation measures by the Mine Remediation Authority.

In some rivers, natural metal concentrations prior to mining activity could make achieving the target challenging because they will have been elevated above the Environmental Quality Standards used for the EA21 abandoned metal mines water target. This makes the prospect of meeting this target uncertain and we assess prospects to only be partially on track without greater confidence in scheme delivery and the completion of further monitoring and evaluation.

Plentiful water

The National Framework for Water Resources was recently updated by the Environment Agency.³⁴⁶ This considers England's long-term water needs, outlining the scale of action needed to ensure resilient supplies and an improved water environment. The analysis shows that progress has been made since the previous framework was published five years ago. However, there is still a lot to accomplish.

The framework confirms that substantial action is required. One estimate shows that the deficit identified for public water supply is around 5,000 Ml/d by the 2050s. Additional pressure will result from other sectors of use, particularly from the energy, food production, agriculture and data centre sectors. Non-public water supply alone will account for an additional demand of 1,090 Ml/d by the 2050s.

Government recently commissioned research assessing river flow by varying climate and water abstraction scenarios into 2080.³⁴⁷ It found that with climate change, all scenarios are likely to reduce flows further over time, in particular southern regions. Even a 'sustainability scenario' where high levels of water efficiency are achieved, through low population growth, innovation and societal change to achieve net zero, leads to flows decreasing and water scarcity increasing.

The current water resource management plans are projected to deliver a 22% reduction in water use per person by 2038.³⁴⁸ This exceeds the EA21 water demand target. It requires all three components of public water supply demand (household demand, non-household demand and leakage) to reduce further. Whilst increases in investment by the water industry are welcome, our assessment identifies sizeable risk from climate change, and water use from other sectors, especially where regional economic growth will be greatest. We assess prospects of meeting the EA21 water demand target to be partially on track.

The APR 2025 shows that leakage has reduced by 13.6%. Water companies are projecting to exceed the EA21 interim target to reduce leakage by 20% by 31 March 2027 and by 30% by 31 March 2032. This would require reductions to exceed historical rates. However the increase in investment is likely to support this ambition. We assess this EA21 interim target to be largely on track.

Progress towards the wider EA21 interim target to reduce the use of public water supply in England per head of population by 9% by 31 March 2027 and 14% by 31 March 2032 will be a challenge without further bringing down all demand components – in particular non-household demand, which has been creeping back up since the COVID pandemic, despite the overall reductions over the last 6 years. There is no other EA21 interim target to

specifically drive further measures to reduce non-household demand. The revised National Framework for Water Resources outlines that water consumption forecasts in water industry plans do not fully reflect the potential additional water needs of existing and new businesses.

Non-public water supply risks, from agriculture, power and wider industry, do not have the same level of regulatory scrutiny in place as public water supply risks. The power sector is taking steps to manage water resource risks. The Joint Environmental Programme is funded by seven of the leading energy producers in the UK and supports a programme of research into the environmental impacts of electricity generation. Research aims to establish key principles and positions for energy generators for water resource planning.

However, wider industry sectors reliant on water supply such as data centres and agriculture lack strategic short-term and long-term plans. Drought events, including those in recent history (2010 to 2012 and 2022) heavily impact crop yield and livestock.³⁴⁹ In these events, farmers who run out of private water sources are at risk of drawing from public water supply sources to maintain their farm business – further increasing risks to the water industry. We recommend that government reviews the resilience of all key water-use sectors to short-term droughts and long-term water scarcity, in particular from non-house public water supply and non-public water supply. Our vulnerability assessment provides a framework for assessing sectoral water scarcity risks.³⁴⁹

Table 4.4. Clean and plentiful water – summary assessment of prospects of meeting targets and other commitments

EA21 targets	Prospects
Reduce nitrogen (N), phosphorus (P) and sediment pollution from agriculture into the water environment by at least 40% by 2038 compared to a 2018 baseline (agriculture water target).	Largely off track
Reduce phosphorus loadings from treated wastewater by 80% by 2038 against a 2020 baseline (wastewater target).	Largely on track
Halve the length of rivers polluted by harmful metals from abandoned mines by 2038, against a baseline of around 1,500km (abandoned metal mines water target).	Partially on track
Reduce potable water demand in England per head of population by 20% from the 2019/2020 baseline reporting figures by 31 March 2038 (water demand target).	Partially on track
Other targets and commitments	
Each body of surface water to achieve or maintain Good Ecological Status or potential by 2021 or the revised objective date of 2027 for 77% of surface waters. ³³⁷	Largely off track
[By 2050] water companies will only be permitted to discharge from a sewer overflow where they can demonstrate that there is no local adverse ecological impact. ²⁹⁵	Partially on track
Ensure that, by the end of the bathing season in 2015, all bathing waters are classified at least as 'sufficient'. ²⁹⁶	Partially on track

4.6. Opportunities for improvement

We have made four recommendations, over the last two annual reporting cycles. Our review of the WFD Regulations and Bathing Water Regulations in England provides 27 recommendations to the government on the implementation of the regulations and the legal, governance and policy framework. Progress in addressing them has been mainly limited. They remain relevant and more pressing to achieve. It will take decades to see tangible improvement from many actions.

Reform following the Independent Water Commission is an opportunity to address these recommendations. However, the proposals are complex and they risk taking time away from the pressing implementation required. Many of the issues we have identified are rooted in the implementation of the laws and regulations rather than the regulations themselves. Implementing the regulations effectively is an essential first step. Furthermore, focus will need to extend beyond the water industry to achieve the goal of clean and plentiful water.

We have previously recommended that to ensure that all major pressures on the water environment are addressed proportionately, government should address imbalances in both delivery and investment, scaling up actions across all major pressures. This requires comprehensive, detailed delivery plans and sufficient resources to be in place.

We have also recommended that Defra should publicly set out how delivery plans and investment align with meeting key targets and commitments. These include the Water Framework Directive Regulations Objectives, Global Biodiversity Framework Target 7, and the 2030 species abundance target and long-term target to reverse the decline of species abundance (EA21 targets).

These plans and long-term targets must be supported by interim targets that are consistent with the overall trajectory of environmental improvement required to meet long-term targets, and the steps for meeting them. We have previously called for government to set EA21 interim targets, to complete metal mine catchment monitoring studies by 2030, reduce non-household water demand, and create or restore wildlife-rich open-water and river habitats.

Delivery across all pressures will be challenging and a focus on the water industry is a starting point and will need to be sustained. Our advice on the EIP rapid review recommended that the Secretary of State prioritises and phases delivery over time.¹⁶ Sufficiently funded catchment partnerships could have an important role to play in tackling wider pressures. In particular we have highlighted getting nature-friendly farming right as a priority to tackle diffuse pollution.

It is widely accepted that addressing habitat modifications in a targeted way has multiple benefits, in particular in adapting the environment to climate change, reducing flood risk and contributing to wider targets and commitments. Improving pollution from urban areas could more directly benefit the health and wellbeing where most people live.

In the short-term, quick wins can be achieved by incentivising action that delivers multiple benefits. For example, the record investment by the water industry could be even more effective if it deploys and scales up actions that deliver and aligns with wider outcomes, such as further nature-based solutions. This firstly requires an understanding of the coherency of water industry actions with wider outcomes, in particular WFD Regulations Objectives, international commitments and the EA21 targets on species abundance.

We have previously recommended greater use of spatial prioritisation in targeting action. This is most pressing in targeting Environmental Land Management and wider grant schemes, to reduce diffuse agricultural pollution and improve the status of bathing waters. A range of spatial evidence is already available to operationalise spatial decision-making, and better use should be made of it. Another practical intermediate step could be to focus interventions on smaller upper catchments, where larger proportions of catchments could be de-intensified with greater ecological benefits.³⁵⁰

As pace and scale of implementation increases. It will forever be more important that monitoring and evaluation is in place to ensure outcomes are achieved effectively. As noted by the Independent Water Commission, a comprehensive monitoring scheme is required. We still do not consider the evolution of government's monitoring programme for the water environment is transparent. It does not set out how all its monitoring programmes work together to fulfil its monitoring obligations under the WFD Regulations and wider outcomes.

Monitoring does not appear adequate to assess current and emerging major drivers and pressures and to fulfil wider ambitions in evidence base development. For example, the Environment Agency has outlined that further evaluation of metal mine pollution risks is required to ensure that the EA21 abandoned metal mines water target delivers the desired environmental outcomes. Our own research on nutrient pollution further demonstrates the nutrient pollution risks in rivers may not be well enough understood to effectively drive ecological outcomes.³⁵¹

Opportunities set out across other chapters are equally important here. First, we see a need for effective management of invasive non-native species and hazardous chemicals. Second, a coherent long-term resource and waste strategy beyond 2023/2024, which tackles hazardous waste pollutants. And lastly, improved land-use planning and levels of regulatory compliance to reduce agricultural diffuse pollution.

Recommendations for clean and plentiful water

In our 2022/2023 progress report we made two recommendations relating to addressing all major pressures and the need for a transparent monitoring programme. Progress to date has been limited. Therefore, these recommendations still stand.

In our 2023/2024 progress report, we made two recommendations focusing on the need to clarify the steps and delivery plans that address major pressures and underpin key targets.

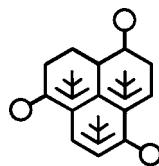
Government has deferred a full response to both recommendations. Progress during the annual reporting period has been limited. Government has stated that the revised EIP will clarify EA21 target delivery plans and update their corresponding interim targets. Furthermore, the government's full response to the Independent Water Commission's recommendations will provide additional clarification. Therefore, these recommendations still stand.

Chapter 5:

Managing exposure to chemicals and pesticides



Chapter 5: Managing exposure to chemicals and pesticides



5.1. Summary assessment

The commercial and environmental lifecycles of chemicals are complex. Effective management is needed to balance benefits with significantly reducing levels of harmful chemicals entering the environment to mitigate the chronic risk of pollution. Chemical pollution has sizable socio-economic costs, emphasising the need for effective regulation at source.

Past trends show reductions in the emissions of certain chemicals, especially when linked to international agreements. However, most chemicals released to the environment are not monitored.

There has been a positive shift from policy development to delivery, especially regarding pesticides. However, overall progress has been mixed and there is still a delay in decisions, data and the setting of a direction on UK chemical risk management for environmental and human health protection.

Government is no longer actively working on the previously promised UK Chemicals Strategy. Lack of clarity and leadership is causing uncertainty for stakeholders on the direction of UK chemical policy and regulation. This uncertainty hinders effective chemical risk management and affects environmental protection.

Government can deliver a coherent approach by nominating a leader to align cross-government work and by publishing a clear vision for UK chemicals policy, such as through a comprehensive UK Chemicals Strategy. This would promote safer and sustainable chemicals and improve decision making for example, through a ‘one substance, one assessment’ approach and clear prioritisation framework.

Table 5.1. Managing exposure to chemicals and pesticides – summary assessment

Past trends	The emissions of reported chemicals show continued declines. However, trends on exposure to and adverse effects of chemicals on wildlife in the environment show a mixed picture with most reporting little to no change.	Mixed
Progress in the reporting period	Progress across the annual reporting period has been mixed, with good progress continuing in eliminating the use of polychlorinated biphenyls and other specific chemicals. However, for pesticides major policies and regulatory decisions are still awaited.	Mixed
Overall prospects of meeting ambitions, targets and commitments	Government is largely off track in achieving its goal to manage exposure to chemicals and pesticides. This is mainly due to the lack of a comprehensive policy framework that sets a clear direction and enables coherent cross-government and stakeholder delivery.	Largely off track
Robustness	Most chemicals released to the environment are not monitored in air, water, or land, leaving significant gaps in understanding of their sub-lethal and mixture effects on public health and ecosystems. Inadequate resourcing for environmental monitoring undermines the ability to assess these impacts. Our assessment of prospects relies primarily on expert judgement.	

5.2. Context and commitments

Chemicals are a part of everyday life, providing benefits and harms to society. The commercial and environmental lifecycles of chemicals are complex, with diverse stakeholders, regulations and trade-offs. In combination with pharmaceuticals, the chemicals sector is the UK's second largest exporter and of strategic importance to the UK economy.³⁵² The chemical industry is a foundational industry within the Industrial Strategy 2025.³⁵³ However, pollution is recognised as a chronic risk to the UK and its environment.⁶ The challenge is to manage chemicals in a way that retains their societal and economic benefits while avoiding impacts to human health and the environment.

Recent Defra sponsored research indicates that the likely scale of effects and associated costs to the UK from chemical pollution are significant and that regulation at source is the most effective way of reducing emissions.^{354,355} The Royal Society has recommended urgent, precautionary regulation of chemical mixtures. It highlights current gaps in risk assessment and urges immediate investment in science, policy, and skills to better protect aquatic ecosystems and public health.³⁵⁶ The Royal Society of Chemistry has published a vision for UK chemical management following stakeholder consultation. This vision emphasised evidence-based regulation to ensure decisions are robust, transparent and trusted, innovation in chemical use to facilitate a circular economy and dynamic policy-making to predict and prevent harm while providing clarity and guidance for industry.³⁵⁷

Government has indicated an interest in a closer alignment with the EU on chemicals.³⁵⁸ In May 2025, the UK and the European Commission agreed to work towards establishing a Common Sanitary and Phytosanitary Area which would include timely dynamic alignment of the regulation of pesticides between the UK and EU by way of a Sanitary and Phytosanitary Agreement. However, other areas of chemicals were not discussed.³⁵⁹ Similarly, within the 2025/26 UK REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals) work programme, government has stated that, where appropriate for the UK, they will seek to avoid duplication of relevant regulatory work carried out by other jurisdictions to establish a stable, predictable and consistent approach to chemicals regulation, more aligned with their closest trading partners.³⁶⁰

The regulatory and policy landscape for UK chemicals policy continues to evolve with consultations on UK chemical reform for UK REACH, GB CLP (Classification, Labelling and Packaging), GB BPR (Biocidal Products Regulation) and GB PIC (Prior Informed Consent for the Export and Import of Certain Hazardous Chemicals) alongside the UK-EU Sanitary and Phytosanitary negotiations.

The UK played a role in the development and adoption of the new UN Global Framework on Chemicals in 2023.³⁶¹ It also contributed to the establishment of the Intergovernmental Science-Policy Panel on Chemicals, Waste and Pollution in June 2025 to support the sound management of chemicals and waste and to prevent pollution.³⁶² As the impacts of the triple planetary crisis – climate change, nature and biodiversity loss, and pollution – become ever more extreme, this new panel will sit alongside the established Intergovernmental Panel on Climate Change and the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services.

The UK is a signatory to four multilateral environmental agreements including the 2001 Stockholm Convention on Persistent Organic Pollutants (POPs) and the 2017 Minamata Convention on Mercury. The UK has committed to substantially increase the amount of POPs being destroyed or irreversibly transformed by 2030, to make sure there are

negligible emissions to the environment, and to eliminate the use of polychlorinated biphenyls (PCBs) by 2025 and to reduce land-based emissions of mercury to air and water by 50% by 2030.³⁶ In May 2025, the UK proposed and it was agreed to list medium-chain chlorinated paraffins as a POP under Annex A of the Stockholm Convention, with some specific exemptions.³⁶³

The UK has also committed to the Kunming-Montreal Global Biodiversity Framework (GBF) Target 7 to reduce the risk from pesticides and highly hazardous chemicals by at least half including through integrated pest management, based on science, taking into account food security and livelihoods; and also preventing, reducing, and working towards eliminating plastic pollution.³⁶⁴ These international agreements link to the EIP23 goal of ensuring that chemicals are safely used and managed, and that the levels of harmful chemicals entering the environment, including through agriculture, are significantly reduced.

The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 (WFD Regulations) and the Marine Strategy Regulations 2010 establish frameworks for the development of environmental objectives and targets on chemical pollution in surface water, groundwater and the marine environment, as well as programmes for monitoring.^{35,337} The Environment Agency's water quality monitoring programmes are further supported by water industry monitoring programmes such as the UK Chemical Investigations Programme and increasingly, the deployment of event duration monitoring for storm overflows. Data for the marine environment comes from reporting commitments under the OSPAR Convention for which Good Environmental Status has not been met for the marine litter or contaminants descriptors (see [Chapter 2](#)).^{365,366,367}

5.3. Key environmental trends

Although improving, the evidence base on the impact of chemicals and chemical mixtures on the environment and human health is still limited in some areas.

Stockpile of three persistent organic pollutants (POPs) remaining in the UK

POPs are toxic organic compounds that adversely affect the environment and human health. They are persistent in the environment, as they are resistant to degradation through chemical, biological and photolytic (absorption of light) processes.³⁶⁸

Defra's waste tool, designed to track the material flows of designated POPs, models the size of the remaining polychlorinated biphenyls (PCBs) stockpile and the destruction of PCBs. From 2018 to 2023, stockpiles of PCBs in use in equipment in the UK have decreased by 50% against a 2000 baseline, a statistically significant reduction. Tonnes of PCBs incinerated (di-electric applications) increased by 24% over the same period.³⁶⁹

From 2018 to 2023, there have also been statistically significant reductions in stockpiles of brominated flame-retardants, decabromodiphenyl ether (DecaBDE) and hexabromocyclododecane (HBCDD) of 38% and 7.5% respectively.

Additional data are provided for DecaBDE and HBCDD, which provide further details on how much of the stockpile was destroyed through incineration. From 2018 to 2023, the total amount of DecaBDE in waste has reduced by 36% and the amount incinerated increased by 21%.³⁷⁰ In 2023, the largest proportion of DecaBDE entering the waste stream was through landfill (44%) with 28% sent for incineration and 28% for recycling. Over the same period the

total amount of HBCDD in waste increased by 134% and the amount incinerated increased by 13%.³⁷⁰ In 2023, the majority of HBCDD was incinerated (58%) with 31% sent to landfill and 11% sent for recycling.

However, this is not a substantial increase in the amount of POPs being destroyed or irreversibly transformed as large amounts of POPs still go to landfill and recycling. The requirement to separate waste upholstered domestic furniture from general waste streams and disposal of it through incineration to destroy harmful POPs including DecaBDE and HBCDD may have contributed to the increase in incineration. Although the extent to which this has driven the increase is uncertain therefore recent trends should be interpreted with care.

Emissions of POPs

From 2017 to 2022, emissions of polychlorinated biphenyls, dioxin-like polychlorinated biphenyls, pentachlorophenol and pentachlorobenzene have decreased in England. Emissions of polychlorinated naphthalene, hexachlorobenzene, and dioxins and furans in England have decreased by 1.2%, 0% and 2.2% respectively over the same period. However, these decreases are not statistically significant, suggesting emissions have stabilised.

Emissions of these chemicals have been associated with associated with thermal processes linked to waste disposal (particularly incineration) and manufacture of metals. Further reductions in pollutant emissions are expected to become more challenging, as point sources are addressed, leaving more challenging diffuse sources such as domestic combustion of solid fossil fuels and illegal burning of waste.³⁷¹

Emissions of mercury to air, land and water

From 2017 to 2022, emissions of mercury to air, land and water has decreased however this was not statistically significant.³⁷¹ Most of the decrease occurred between 2018 and 2019 and over the past three years, overall mercury emissions from larger industrial sites have slowly been increasing. In 2022, emissions of mercury from larger industrial sites and crematoria in England totalled 1,554kg, with larger industrial sites accounting for 80% of this figure.

From 2016 to 2022, emissions from crematoria and combustion industries have been decreasing as government policies and actions take effect. Emissions from water, metals and chemicals industries have also decreased. However, emissions from the energy from waste and cement and mineral sectors have increased ([Figure 5.1](#)).³⁷²

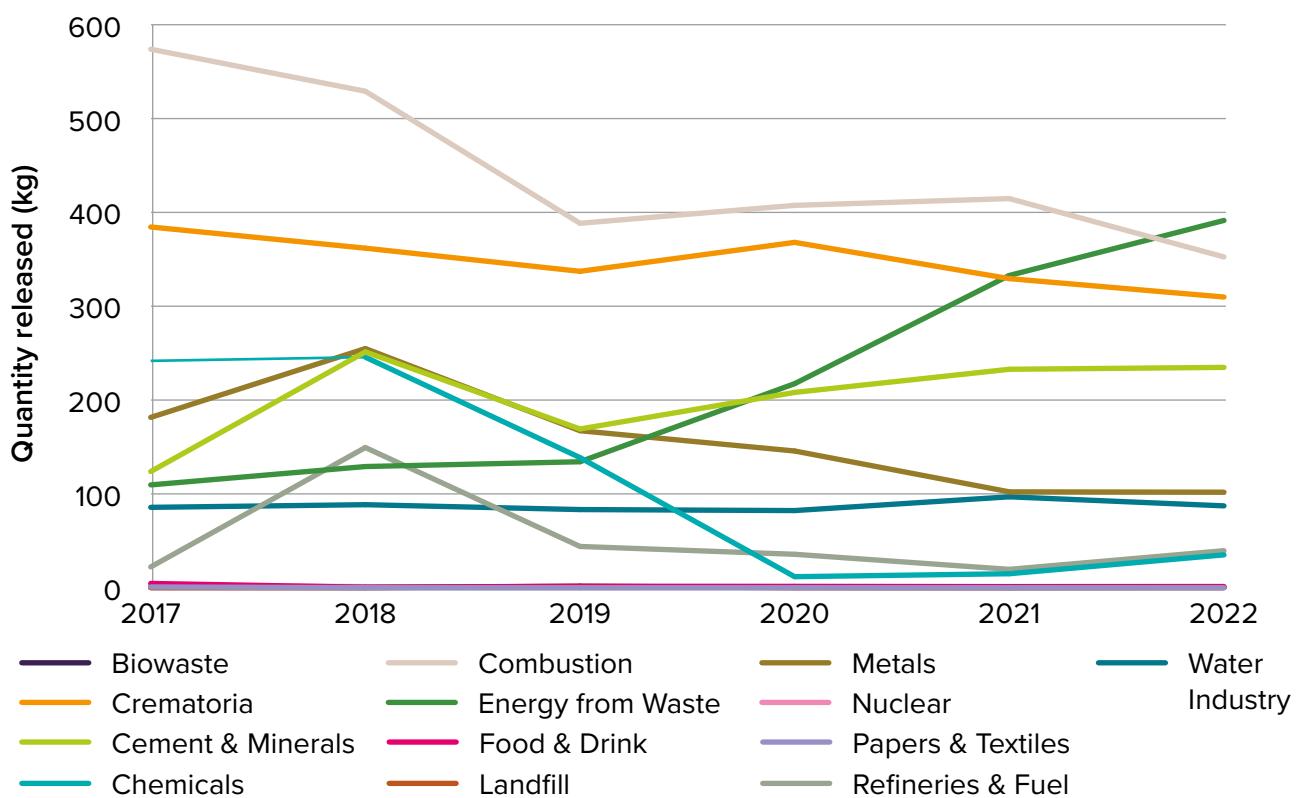


Figure 5.1. Emissions of mercury to air, land and water from larger industrial sites and crematoria in England between 2017 and 2022.^{372,373} Five categories (Biowaste, Food and Drink, Landfill, Nuclear, Papers and Textiles) have values <5 and therefore overlap.

Pesticides

Pesticide use in arable crops accounts for approximately 90% of the total usage in the UK.³⁷⁴ The UK Pesticide Load Indicator (PLI) is a multi-component indicator (see Methodological Statement for full details). It combines data on the use of different pesticides on UK arable crops with information on their tendency to persist, bioaccumulate, be lost via surface run-off or leaching, and/or their relative toxicity to wildlife. Data are derived from the UK Pesticide Usage Survey and the Pesticide Properties Database.^{375,376} The PLI supplements traditional metrics such as the ‘total mass of pesticides applied’ and the ‘total area treated’ by considering the changing mixture of different substances applied over time and the effect of their varying chemical or biochemical properties. The PLI consists of four environmental fate and 16 ecotoxicity metrics. From 2018 to 2022, out of the 20 PLI metrics, 17 showed a mean reduction in load of at least 10%, with 13 having a high confidence that this has been achieved and none showing an increase within the same period.³⁷⁷

Although the PLI is preferable to measuring pesticide usage alone, the PLI does not quantify harm or reflect environmental outcomes, as it does not account for any mitigation practices or calculate exposure of real wildlife populations. Also, as the PLI only covers arable crops, it is good at measuring broad trends in commonly used pesticides over time, but it will not pick up all minor uses and niche pesticides.

In 2024, Health and Safety Executive (HSE) reported 2.07% of the 3,482 samples of food and drink in Great Britain tested contained a residue above the maximum residue level set by law. This represents a 28% decrease since 2019.³⁷⁸

State of the water environment

The latest assessment of chemical status under the WFD dates from 2019 when no surface water bodies met the criteria for achieving Good Chemical Status. This reflects the fact that new assessments for ubiquitous, persistent, bio-accumulative and toxic (uPBT) chemicals were included as well as new standards, improved techniques and methods. The use of many of these substances has already been restricted in the UK, while others are used every day in the home, and in industry. The substances that caused the most failures in 2019 were polybrominated diphenyl ethers used in electrics, foams and textiles, mercury from past industrial activity and current sources such as crematoria, and perfluorooctanesulfonate used for its non-stick, water repellent and oil-resistant characteristics, including in firefighting foams and textiles. There are currently national and international measures in place to prevent the use of PBDEs, mercury and PFOS in products.³¹⁰

Groundwater bodies fared better but still need further improvement with 45% meeting the criteria for achieving Good Chemical Status.²⁹⁸ The next set of results is due to be published in 2026, however, the picture will likely be largely unchanged given the nature of uPBT substances.

From 2022 onwards data for the Outcome Indicator Framework ‘riverine inputs of selected metals into English tidal waters’ indicator have not been reported due to ongoing resource pressures.³⁰⁹ Recent research on tidal waters for reporting under the OSPAR convention has highlighted that zinc and copper have the greatest relative importance for river macroinvertebrate richness at a national scale.³⁷⁹

Exposure to and adverse effects of chemicals on wildlife in the environment

The Outcome Indicator Framework ‘exposure and adverse effects of chemicals on wildlife in the environment’ indicator provides additional information on trends and wildlife exposure to chemicals in the environment (see Methodological Statement for full details).³⁸⁰ It shows a mix of trends across the different chemical groups and terrestrial, freshwater and marine environments, with the majority showing little or no change. However, there are still significant data gaps, especially in relation to terrestrial species and the indicator has not been updated since our last assessment.

Most chemical trends show little or no change. However, mercury frequently exceeds safety thresholds in freshwater and marine samples, though data for top predators are limited. PCBs also remain high in the marine environment. In freshwater, lead, cadmium, nickel, and zinc generally show downward trends, but elsewhere lead is showing upward trends in species such as buzzards, offshore fish, and harbour porpoise. Pesticides pose a high potential risk in freshwater, though assessments often assume additive toxicity and may include substances from non-agricultural sources, such as veterinary medicines.

A summary assessment of the key trends we assessed is provided in [Table 5.2](#).

Table 5.2. Managing exposure to chemicals and pesticides – summary assessment of key trends

Indicator	Indicator trend	Trend time period
Stockpile of 3 persistent organic pollutants remaining in the UK		2018–2023
Emissions of Persistent Organic Pollutants		2017–2022
Emissions of mercury to air, land and water		2017–2022
UK Pesticides Load Indicator		N/A
Exposure and adverse effects of chemicals on wildlife in the environment		N/A

5.4. Progress towards ambitions, targets and commitments

After several years of reporting actions within the policy development phase, the majority of actions reported within the APR 2025 have shifted towards delivery.⁴⁹

A summary assessment of the targets and commitments we assessed progress towards is provided in [Table 5.3](#) with further detail provided below. There has been little publicly available information on actions taken towards reducing land-based emissions of mercury to air and water by 50% by 2030 nor achieving or maintaining good surface water chemical status so we have assessed progress during the annual reporting period regarding these targets as limited.

Vision and strategic direction

Overall progress within the annual reporting period has been mixed as despite increased delivery actions, the effect of an unclear strategic direction after EU exit on UK chemicals regulation and policy continues to affect progress.

The UK Chemicals Strategy was intended to set out the priorities for addressing risks from harmful chemicals, outline an approach to regulation that adheres to the Environmental Principles Policy Statement, and address how the UK will move to more sustainable use of chemicals for social, economic and environmental gain.^{24,36} Despite a planned, albeit already-delayed, publication date within the annual reporting period, government has since announced that it is no longer working on it at this time.³⁸¹ Instead, the EIP25 will set out government's approach to managing chemicals. This leaves continued uncertainty for stakeholders over the direction of UK chemical policy and regulation and if this will deliver environmental protection and improvement.

UK chemical policy and regulation

The reporting period was the fourth year of the operation of UK REACH. During this period, government consulted on proposed changes to UK REACH, including an alternative transitional registration model (ATRm). The ATRm aimed to significantly reduce the costs to industry of transitioning to UK REACH while preserving a high level of protection for human health and the environment from chemical risks.³⁸²

However, these proposals which could put the onus on regulators to obtain data from industry as the basis for assessments and decisions pose some risks to the environment. Our consultation response highlighted further areas that government needs to consider. These included how it will handle divergence between the UK and EU, the opportunities to gather more detailed information on substances that are persistent, bioaccumulative, and toxic (PBT), or very persistent and very bioaccumulative (vPvB) to the environment, and how regulatory decisions could be taken based on data.³⁸³

There is a lack of information on the environment's exposure to chemical substances throughout their production, use, and disposal. Inputs to the environment occur through many routes, including point and diffuse sources. Also, organisms tend to be exposed to a mixture of chemicals from different sources, which can have a cumulative and synergistic impact (see [Chapter 6, Figure 6.1](#)). This lack of data on a chemical's lifecycle significantly undermines the ability to communicate and make decisions on risks, or evaluate mitigation solutions, because exposure cannot be quantified.³⁸⁴ In recognition of this, the ATRm proposed to enhance what information on 'use and exposure' would need to be provided in registrations.³⁸²

Overall, the establishment of regulatory processes and controls on chemicals continues to be delayed. With regards to the ATRm consultation, at the time of writing, Defra is analysing the consultation responses.³⁸⁵ This has had a cascading effect with Defra consulting on further delaying the deadlines for data registration of transitional registrations.³⁸⁶ The HSE met their legal obligations in relation to compliance checking 20% of registration dossiers of novel substance registrations.³⁸⁷

In December 2024, HSE set out its final opinion on restriction of the supply and certain outdoor uses of lead ammunition, for consideration by government ministers in England, Scotland and Wales.³⁸⁸ This has since been approved by the Secretary of State with support from the devolved nations, but has taken four years (50 months) after HSE initially received the request.^{389,390} The estimated time for the restrictions process is proposed to be 27 months with the UK REACH consultation proposing to reduce this to 24 months.³⁸² As the first restriction is completed under UK REACH, government should consider the implications of needing to consider unexpectedly high volumes of consultation responses and repeated delays of publication of key documents on proposed timelines.

The 2024-25 UK REACH work programme was published in February 2025, towards the end of its delivery period.³⁹¹ It confirmed that government has started work on a UK REACH dossier investigating whether to restrict per- and polyfluoroalkyl substances (PFAS) in fire-fighting foams. A consultation on the proposed restriction and the assessments within the Annex 15 report has commenced.³⁹² Given the significant resources expended and the delays experienced during the process of restricting lead in ammunition, it remains to be seen how the government will fulfil its stated intention to, where appropriate for the UK, avoid duplicating relevant regulatory work undertaken by other jurisdictions, such as the European Union, to increase efficiency.³⁹³

The 2024-25 UK REACH work programme also included the continuation of the Regulatory Management Options Analysis (RMOAs) on formaldehyde and bisphenols in thermal paper initiated under the 2022-23 work programme. Completion of an RMOA on 1,4-dioxane was reported in 2023-24, but publication has been delayed.³⁹⁴ The 2024-25 work programme proposed building a pipeline of future work of RMOAs and restrictions based on previous work, as well as new applications for substances added to Annex 14 and cross-government collaborative working. However, some work within the UK REACH work programme, such as the planned RMOAs on 2-(4-tert-butylbenzyl)propionaldehyde and 2,4,6-tri-tert-butylphenol and further restrictions on other uses of PFAS, were paused under direction from Defra whilst government considers its priorities and strategic direction. In other cases, planned RMOAs were instead prepared as technical reports for publication. While these reports provide all the relevant technical information, they do not provide any recommendations for risk management.

Beyond UK REACH, new legislation has been introduced to manage highly hazardous chemicals. On 10 May the Merchant Shipping (Anti-Fouling Systems) Regulations 2024 prohibiting the use of cybutryne in marine anti-fouling paints on all ships while in UK controlled waters came into force.³⁹⁵ March 2025 saw the introduction of the Persistent Organic Pollutants (Amendment) Regulations 2025 which amend the recast EU Regulation 2019/1021 on POPs to prohibit three new POPs substances: dechlorane plus, methoxychlor, and UV-328.³⁹⁶ This followed their recent adoption for global elimination under the Stockholm Convention on POPs.

In March 2025, a consolidated guidance document was issued to water companies detailing the Drinking Water Inspectorate's requirements that water companies should consider when fulfilling their statutory obligations under the Water Supply (Water Quality) Regulations 2016 (as amended). These relate to PFAS monitoring, risk assessment and strategy in relation to public water supply systems.³⁹⁷

In 2024 to 2025, through analyse of products for mercury and regular online monitoring, the Environment Agency identified four offences for importing banned products containing mercury into Great Britain and removed 165 listings of products believed to contain mercury. As well as issuing advice and warning letters as appropriate, the Environment Agency contacted their international partners through the Minamata Convention on mercury to share the product information with countries of manufacture identified.³¹⁰

Circular economy and waste

The Circular Economy Taskforce, an independent expert advisory group, was established in November 2024 to support the government in creating a Circular Economy Strategy for England (see [Chapter 6](#)).³⁹⁸ One of the subgroups is tasked with considering potential interventions for chemicals and plastics. This includes reducing hazardous substances through standards and regulation and accelerating sustainable solutions and products.³⁹⁹ In recent years, multiple studies commissioned by UK industry and regulators have identified POPs in a variety of waste materials.⁴⁰⁰ The continuing presence of harmful chemicals in products makes the transformation to circularity challenging.⁴⁰¹ Realising the ambition of a circular economy will require coherence between chemicals and waste policies and actions that extend across government.

The Environment Agency has continued targeted, risk-based compliance activity to increase the destruction of POPs. In 2024 to 2025 they conducted over 90 site inspections at

facilities permitted to accept POPs waste. This included work with local authorities to ensure waste upholstered domestic seating, such as sofas, were collected separately, treated (by shredding) and destroyed at municipal waste incinerators rather than sent to landfill.³¹⁰ This was in addition to studying POPs and hazardous substances in construction and demolition waste, and conducting a rapid evidence assessment of PFAS incineration, as well as alternative remediation methods to inform future priorities.⁴⁰² They have also continued to support holders of equipment to, by the end of 2025, identify and remove from use certain equipment containing PCBs as specified in the Environmental Protection (Disposal of Polychlorinated Biphenyls and other Dangerous Substances) (England and Wales) Regulations 2000 (as amended).^{49,403} This leaves 44 registered holders of contaminated equipment in England. Following this registration period, the Environment Agency carried out risk profiling of registered PCB holders to identify possible non-compliances and conducted information campaigns across four industrial sectors to identify unregistered holders of contaminated equipment.³¹⁰

Pesticides and rodenticides

The UK Pesticides National Action Plan 2025 was published in March 2025 with a pesticides reduction target to reduce each of the UK Pesticides Load Indicator metrics by at least 10% by 2030 from a 2018 baseline.³⁷⁴ This differs from Target 7 of the Kunming-Montreal GBF, which includes reducing the risk from pesticides by at least half including through integrated pest management (IPM), based on science, taking into account food security and livelihoods. The domestic target has already been achieved for 17 metrics, suggesting that it is not ambitious.

The government has a duty under the Sustainable Use Directive to promote the uptake of IPM and minimise pesticide risks and impacts on human health and the environment. Promotion of IPM is in recognition of its importance in achieving sustainable pesticide use, as it encourages the use of pesticides only when all other reasonable preventative measures have been taken. However, the 10 pesticides actions within the National Action Plan supporting IPM are not time-bound and are mainly evidence-gathering or commitments to maintain current levels of support. To support increased use of IPM approaches, an IPM guidance page was launched on GOV.UK in November 2024, aimed to provide clear and practical information.⁴⁹ However, a signposting page without supporting local farm advice or spatial prioritisation of pesticide use at landscape scale is likely to have limited impact.

Government support has been put in place through agri-environment schemes to help farmers manage their land both for food production and nature. During the annual reporting period, as part of the Sustainable Farming Incentive (SFI), three new paid actions on precision application were added, including robotic weeding to minimise use of herbicides. These built on the four paid actions already available for IPM.⁴⁹

Excluding planning actions, the actions covering the most land area in the SFI is ‘no use of insecticide, nematicide or acaricide on arable crops and permanent crops’ (IPM4 and CIPM4). These covered 885,000 hectares up to 1 April 2025.⁴⁰⁴ However, it is difficult to quantify the impact of these actions and they are not spatially targeted. The sudden closure of SFI to new applicants in March 2025 after the SFI budget was fully allocated has further eroded confidence within the farming community (see [Chapter 12](#)).

The UK Pesticides National Action Plan compliance objective covers the new legal obligation on those working with pesticides professionally to register with Defra

or DAERA. This, alongside the new pesticide enforcement officers, will support compliance. We also welcome the action to update the ‘Codes of Practice for using plant protection products’ and the ‘Code of Practice for suppliers of pesticides to agriculture, horticulture and forestry’, which were last updated in 2006 and 1998, respectively.

In January 2025, government decided not to grant an emergency authorisation for the use of the product Cruiser SB, which contains the neonicotinoid thiamethoxam, for the treatment of sugar beet seed in England in 2025.⁴⁰⁵ Our investigation into whether Defra failed to comply with a number of environmental laws when granting emergency authorisations for the use of Cruiser SB in 2023 and 2024 is ongoing. The investigation is considering whether the appropriate assessments and considerations were undertaken in accordance with the law when those emergency authorisations were granted. It is focusing on Defra’s interpretation and application of the precautionary principle, and compliance with its nature conservation obligations.⁴⁰⁶ Since the end of the annual reporting period, new guidance on emergency authorisations has been published.⁴⁰⁷

The HSE has amended authorisations for second-generation anti-coagulant rodenticide (SGAR) products, used to control rats and mice, to prevent their use in open areas and around waste dumps. Since 4 July 2024, SGARs can no longer be bought for use in open areas or waste dumps and since 1 January 2025, their use in these areas has been illegal.⁴⁰⁸ A primary factor leading to this is the static incidence of rodenticide residues in 80-90% of barn owls, the HSE-nominated sentinel species for annual surveillance.⁴⁰⁹

Monitoring, research and evaluation

Defra has published three commissioned research reports within the annual reporting period. The first is on the socio-economic cost of chemicals for which the likely scale of effects and associated costs to the UK are concluded to be significant.³⁵⁴ Secondly, an option appraisal for intentionally added microplastics, in part concluded that regulations at source are the most effective way of reducing emissions of intentionally added microplastics. Such action would be a good expression of the environmental principles of ‘prevention’ and ‘rectification at source’, that is, avoiding harm before it occurs and avoiding more costly remedies after pollution has occurred.³⁵⁵ The third reported research into measuring and valuing the environmental impacts of chemical pollution in the UK. However data gaps did not allow the project to monetise damages resulting from changes due to particular chemicals.⁴¹⁰

Building on previous research and monitoring, National Highways are conducting increased widespread monitoring of microplastics and emerging contaminants across their network. Preliminary results indicate that chemicals exceeding standards include metals (copper and lead), polycyclic aromatic hydrocarbons (benzo(a)pyrene, fluoranthene, indeno(1,2,3-cd)pyrene) and, the corrosion inhibitor, benzotriazole.⁴¹¹ Research has also shown that existing mitigation techniques, wetlands and ponds, were found to be effective for capturing and retaining tyre wear particles similar to zinc, copper and suspended solids.⁴¹² However, any dredged material from these areas would need to be handled appropriately to avoid contamination elsewhere.

Table 5.3. Managing exposure to chemicals and pesticides – summary assessment of progress over the annual reporting period towards meeting targets and other commitments

Targets and commitments (EIP23 unless otherwise indicated)	Progress
Substantially increase the amount of persistent organic pollutants (POPs) material being destroyed or irreversibly transformed by 2030, to make sure there are negligible emissions to the environment.	Good
Seek to eliminate the use of polychlorinated biphenyls (PCBs) by 2025.	Good
Reduce land-based emissions of mercury to air and water by 50% by 2030.	Limited
Reduce the overall risk posed by pesticides and highly hazardous chemicals by at least half in line with Kunming-Montreal Global Biodiversity Framework Target 7.	Mixed
Each body of surface water (other than an artificial or heavily modified water body) to achieve or maintain good surface water chemical status by 2063 (extended from 2021) (Water Framework Directive Regulations).	Limited

5.5. Prospects of meeting ambitions, targets and commitments

Overall, government is largely off track to achieve the goal of ensuring that chemicals are safely used and managed, and that the levels of harmful chemicals entering the environment (including through agriculture) are significantly reduced. While there has been an improvement in progress in some areas, there are still gaps in the evidence base, delivery challenges and no clear vision or strategy for the UK.

The lack of a UK chemicals strategy and delay in the publication of the EIP25 has left government's current direction and level of ambition unclear with regards to chemical pollution and regulation. Especially during a period of regulatory reform from different responsible departments. Stakeholders have expressed frustration and disappointment at the continued delays and lack of support from government and asked for clear policy direction and decisive action to support both economic growth and environmental and human health protection from chemicals.^{352,357,413}

In the absence of an agreed chemicals strategy or plan, there is no single leader coordinating chemical regulation leading to fragmented efforts and unclear alignment between agencies such as HSE and Defra. For example, consultation proposals for the ATRm for UK REACH proposed to reduce the hazard information requirements for registrants of transitional substances by replicating the EU REACH's hazard information. However, the EU has introduced several new hazard classes under EU CLP, which the UK is proposing not to introduce under proposed legislative changes to GB CLP. There is no clear understanding on how this divergence may be managed during the implementation of legislative reforms.

Fragmentation of regulatory leadership across government hampers effective reform and system functionality, both within the chemical regulatory system and wider areas such as water, circular economy and waste. This leads to disjointed management of chemicals and risk of human and environmental harm.

A summary assessment of the targets and commitments we assessed prospects of meeting is provided in [Table 5.4](#), with further detail provided below.

Highly hazardous chemicals and pesticides

After several years of publishing an annual delivery plan (UK REACH work programme) at the end of the delivery year instead of the beginning, the 2025/2026 annual delivery plan for UK REACH was published in July 2025, representing an improvement on previous years. However, there are fewer deliverables in the current delivery plan than previously with more focus on policy development.³⁶⁰

Long delays and the narrow scope for work programmes, restrictions and other regulatory decisions indicate there are issues delivering the current regulatory system. It is not clear if the lack of transparent policy decisions being taken on chemicals is due to a lack of direction, ambition, data or capacity.

For example, despite ongoing prioritisation work to identify candidates for future evaluation under UK REACH,^{414,415} there have been no new substances added to the Candidate List or Authorisation List since 1 January 2021. Substance evaluation activities are currently constrained by the lack of full registration dossier information. In addition, the HSE does not have access to data on chemicals held by the European Chemicals Agency to inform regulatory decisions. As a result, a significant number of the substances considered for potential inclusion on the Candidate List and the Authorisation List (Annex 14), resulted in the outcome of 'further information needed'. Government has stated an intention to undertake a review of the interim principles for additions to the Candidate List of Substances of Very High Concern published under the previous UK government.⁴¹⁶ Depending on the outcome of this review, government will consider its approach to additions made to the EU REACH Candidate List since 1 January 2021.⁴¹⁶

Similarly, a recurring key finding within the HSE's Regulatory Management Option Analysis and Technical Reports is the scarcity of information (hazard data, exposure data, uncertainty of appropriate thresholds and market supply) to carry out quantitative risk assessments for many of the considered substances.⁴¹⁷

In all chemicals regulations it is essential to have accessible, robust data that cross-government regulators require to facilitate decision making and a mechanism by which regulatory decisions can be revisited if new scientific evidence comes to light. New information may emerge that necessitates changes to previous decisions. Without understanding and addressing why decision making has been slow, current legislative reform is at risk of exacerbating current inefficiencies.

No, or slow, implementation of processes under regulations to limit harmful chemical use within the UK will result in the ongoing exposure to hazardous chemicals in the UK, risking human health and the environment.

Although emission trends and actions have been positive with respect to pesticides, there are still significant barriers to reducing the risk of highly hazardous chemicals. Therefore, we have assessed the prospects of achieving the Kunming-Montreal GBF Target 7, to reduce the overall risk posed by pesticides and highly hazardous chemicals by at least half, as largely off track.

Persistent Organic Pollutants including polychlorinated biphenyls

The prospect of meeting the commitment to substantially increase the amount of POPs material being destroyed or irreversibly transformed by 2030, to make sure there are negligible emissions to the environment, is largely off track.

Emissions of PCBs and dioxin-like PCBs to the environment may be reported as negligible by 2030. This is due to good progress towards the linked commitment to eliminate the use of PCBs by 2025. The PCB modelling tool assumes that 99% of the in-use PCBs from a 1977 baseline have been removed and destroyed or already emitted to the environment. From 31 December 2025 it will be an offence to hold equipment containing PCBs.³¹⁰ However, it is estimated that it will take around four to five years to fully eliminate the remaining stockpile, meeting the commitment by 2030.³⁶⁹ Therefore the target to seek to eliminate the use of PCBs by 2025 is partially on track.

With regards to other POPs, reported emissions of hexachlorobenzene, dioxins and furans, linked to combustion and waste incineration are stabilising.³⁸⁰ However, the amount of waste containing POPs is likely to increase – potentially significantly – as waste producers and regulators identify more wastes containing POPs, and as legislation is updated to include new POPs listed under the Stockholm Convention.

Defra's preliminary analysis suggests that, by 2025, up to a further 106 to 158kt per year of plastic and construction waste could need incineration. Beyond this, there are also up to 2.5Mt per year of waste containing chlorinated paraffins that may need incineration.⁴¹⁸ Improved management of hazardous waste is necessary but there also needs to be careful consideration of the implications of increased levels of incineration for implementation of the waste hierarchy, and any unintended consequences. Local authorities manage approximately 40% of all waste.⁴¹⁹ As they implement the move to substantially increase the amount of POPs being destroyed or irreversibly transformed, the cost of compliance is being estimated at £200 per tonne. Hampshire County Council has estimated that the cost of compliance with waste upholstered domestic seating requirements has resulted in an additional cost of £1 million per year (see [Chapter 6](#)).⁴²⁰

Mercury

Although there were limited actions from government during the annual reporting period, overall, the prospects of meeting the commitment to reduce land based emissions of mercury into the air and water in England by 50% remain largely on track due to previous and subsequent actions.

Government's delivery plan relies on significant decreases in mercury emissions from the combustion and crematoria sectors. The last operational coal-fired power station closed in September 2024. At the time of writing, an updated Process Guidance Note setting out the Best Available Techniques' for controlling emissions to air from crematoria is expected imminently.¹ However, increasing emissions from the energy from waste sector present a barrier to achieving the target ([Figure 5.1](#)).³⁷²

Good surface water chemical status

There are few statutory standards for chemicals in the environment. The EU ‘Watch List’ mechanism and processes for setting environmental quality standards under the WFD Regulations no longer apply in the UK.³¹⁶ Instead, the Secretary of State now has powers within the Environment Act 2021 to update the list of priority substances and derive associated environmental quality standards following EU exit.

There is a need for Defra to establish effective processes to replace the former EU ‘Watch List’ mechanism and for setting environmental quality standards in all environmental compartments and media. Evaluating environmental status is only possible with robust monitoring and clearly defined thresholds for what constitutes a risk of harmful effects. Establishing these thresholds, in turn, requires robust monitoring data.

No surface water bodies in England meet the Good Chemical Status objective. Given the nature of uPBT substances, we anticipate that picture to be largely unchanged in the next round of reporting in 2026. However, additional monitoring has shown reductions in perfluorooctane sulfonates (PFOS), largely as a result of its ban. Several separate initiatives are being undertaken by the EA on uPBTs, including reviewing and varying environmental permits. We understand from the Environment Agency that the 2063 ‘natural conditions’ extension under the WFD Regulations is only applied to mercury and polybrominated diphenyl ethers. The other uPBTs that cause failures – PFOS, hexabromocyclododecane (HBCDD), polycyclic aromatic hydrocarbons and cypermethrin – do not have such extensions. Defra has described the 2063 deadline as ‘a modelling prediction’ by the Environment Agency on how long it will take for the levels to dissipate under the exemption (see [Chapter 4](#)).³¹⁶ Therefore we assess the prospects of achieving this target as largely off track.

Table 5.4. Managing exposure to chemicals and pesticides – summary assessment of prospects of meeting targets and other commitments

Targets and commitments (EIP23 unless otherwise indicated)	Prospects
Substantially increase the amount of persistent organic pollutants (POPs) material being destroyed or irreversibly transformed by 2030, to make sure there are negligible emissions to the environment.	Largely off track
Seek to eliminate the use of polychlorinated biphenyls (PCBs) by 2025.	Partially on track
Reduce land-based emissions of mercury to air and water by 50% by 2030.	Largely on track
Reduce the overall risk posed by pesticides and highly hazardous chemicals by at least half in line with Kunming-Montreal Global Biodiversity Framework (GBF) Target 7.	Largely off track
Each body of surface water (other than an artificial or heavily modified water body) to achieve or maintain good surface water chemical status by 2063 (extended from 2021) (Water Framework Directive Regulations).	Largely off track

5.6 Opportunities for improvement

Currently actions seem disjointed and lack coordination. Government needs an overall leader to set a strategic vision and coordinate cross-departmental action on chemicals, aligning regulation and policy across chemical lifecycles and agencies. This would assure ministers and senior civil servants that plans will deliver systemic change to support both economic growth and environmental and human health protection from chemicals.

The EIP25 and forthcoming Circular Economy Strategy will give some direction on chemicals. However, it is unlikely they will be an appropriate substitute for a comprehensive UK Chemicals Strategy. A UK Chemicals Strategy or delivery plan is still needed to align cross-government work on chemicals, detail how regulation would be used and set out how the UK will move to more sustainable use of chemicals for social, economic and environmental gain as envisaged in the EIP23.

To be effective, a strategy must address both legacy and emerging pollution by chemicals, including persistent substances such as PFAS. Additionally, it should clarify how government will differentiate its approaches between point and diffuse sources of pollution, and how spatial distribution will be considered within delivery. In developing chemical policy and regulation government should give due regard to the Environmental Principles Policy Statement, which refers to the precautionary principle alongside other environmental principles.

There are also opportunities to improve efficiency in decision-making. The UK has a comprehensive but complex and disparate chemical regulatory framework. There are multiple regulations for many different chemicals and uses and emissions overseen by different government departments and bodies. Under the current legislative framework, risk assessment and risk management of a single chemical can be undertaken by different bodies, under different legislation, for different purposes, at different times and for different uses. For example, a single insecticidal chemical could be used in medicine, veterinary medicine, biocidal products and pesticides. Each of these categories falls under different regulations with different risk assessments and protection goals leading to potentially different regulatory outcomes for the same substance. This makes it difficult to identify the regulatory pathway associated with unacceptable levels of specific chemicals in the environment. It also makes the regulation highly hazardous chemicals such as PFAS challenging (see Box 5.1).

Government's approach to chemicals risk assessment will be dependent to a degree on the outcome of the UK-EU negotiations. However, there is scope outside of this for government to use data and expertise more efficiently by adopting the 'one substance, one approach' to create a common knowledge base on chemicals. This would reduce duplication of technical and scientific work on chemicals and would optimise cross-government resource and expertise to support government priorities.

Box 5.1. Per- and polyfluoroalkyl substances (PFAS)

The current regulatory regime for PFAS is limited and fragmented. To date, PFAS regulation in the UK has been largely based on obligations under the Stockholm Convention and REACH, except for some sources of PFAS under specific product regulations. It is not clear how information on PFAS is shared and communicated across multiple regulators.

No PFAS (or any other substances) have been added to the Candidate List (Substances of Very High Concern) or Authorisation List. Only one restriction on one use of PFAS (in fire-fighting foams) has been initiated and it applies to few PFAS.

Although, HSE in Great Britain has not adopted the EU's new hazard classes within the GB CLP regime, Defra has set out an interim approach to persistent, mobile, toxic (PMT) or very persistent, very mobile (vPvM) concepts to support PFAS risk management.⁴²¹ This means that these characteristics will be taken into account for PFAS risks managed under UK REACH, although products containing PFAS will not be required to be labelled with PMT or vPvM.

A suite of inter-connected regulations could apply to PFAS as part of a coherent strategy, including upstream measures that control the production and use of PFAS such as UK REACH and CLP, as well as downstream regulations which control release or presence in the environment, such as the Environmental Permitting (England and Wales) Regulations 2016 and the WFD Regulations. Our earlier assessments found many chemicals of concern, including several PFAS, that are not well monitored or subject to full control under those regulations, or by other means, due to limited funding and resources.³¹⁶ A new £2m, 4 year UKRI project has been launched to tackle major knowledge gaps regarding PFAS.⁴²²

Our earlier assessments found little is understood about PFAS use, the quantities available on the UK market, or their presence in imported goods.³¹⁶ It is estimated that more than 100 individual PFAS are in use within the UK. The Environment Agency has estimated that the cost of remediation for PFAS contamination in the UK could reach between £31 billion and £121 billion for between 2,900 and 10,200 high-risk sites.⁴²³ However, although there is evidence of widespread environmental contamination from PFAS in wildlife and humans, affecting both human and environmental health with significant associated socio-economic costs, there is still a limited UK approach to regulating and monitoring PFAS.

The continuing presence of harmful chemicals in products creates challenges for the government's ambition to transition to a circular economy as it requires coherence between chemical and waste policies (see [Chapter 6](#)). To reduce the burden at end-of-life for products containing hazardous chemicals that cannot be moved up the waste hierarchy, a modern chemical regulation system is needed. This should promote the development of safer, sustainable chemicals, materials, products, and processes, and avoid regrettable substitution. Together, the EIP25, Circular Economy Strategy and chemical regulation and policy should encourage innovation and consider broader incentives for businesses, focusing not only on functionality, but also on the entire lifecycle of chemicals and their impacts.

Increased understanding of where chemicals are a key pressure on human health and the environment will enable effective regulatory decisions. Government should expand and

adequately resource environmental monitoring to address data gaps across exposure pathways and chemicals, especially in the terrestrial environment. The Independent Water Commission review recommended that future water monitoring programmes should be reviewed and adequately resourced, to accurately reflect the state of the environment.²⁹¹

However, the need goes further: a joined-up approach to monitoring across the UK is essential to close persistent data gaps and understand systemic risks, including those affecting wildlife at different trophic levels. While initiatives such as the National Honey Monitoring Scheme are a positive step,⁴²⁴ robust soil data to understand entry points to exposure, at least for terrestrial wildlife, remains a critical missing link for understanding how chemicals enter the UK environment.³⁸⁰

Government now has a timely opportunity, through legislative reform of the Environmental Permitting (England and Wales) Regulations, to implement the Environment Agency's strategy for safe and sustainable sludge use.⁴²⁵ This will help identify and mitigate any hazardous risks within the chemical complexity of the 96% of UK sludge recycled to land to food production and the natural environment (see [Chapter 7](#)).

Recommendations for managing exposure to chemicals and pesticides

In our 2022/2023 progress report we made five recommendations relating to governance, skills, policy development and monitoring. Progress to date has been mixed or limited so these issues are reflected in subsequent recommendations.

In our 2023/2024 progress report we made five recommendations.

Government has deferred a response to our recommendation to publish and implement new crematoria guidance. However, progress during the annual reporting period has been good. Government has stated that the guidance is being updated and will be published in due course.

Government has partially accepted our recommendation to reduce the risk posed by pesticides by targeting other drivers through interventions beyond ELMs. Progress during the annual reporting period has been limited even with the publication of the UK National Action Plan for Pesticides. Therefore, this recommendation still stands.

Government has deferred a full response to our recommendation to publish a UK Chemicals Strategy stating that it intends to set out its approach to chemicals management in the EIP25. As we consider that a strategy is still needed to achieve government's long-term goals, this recommendation still stands.

Government has accepted our recommendation on the need to deliver a terrestrial chemicals and pesticides monitoring programme. Progress during the annual reporting period on delivering a programme has been limited. However, government has stated that it is working towards delivery of research and development for terrestrial monitoring. Therefore, this recommendation still stands.

Government has accepted our recommendation on the need to consider the whole life cycle of chemicals when designing new policy and regulation. The forthcoming Circular Economy Strategy for England includes chemicals and plastics as one of the priority sectors. Progress during the annual reporting period has been mixed. Therefore, this recommendation still stands.

Recommendations for managing exposure to chemicals and pesticides (cont.)

This year we focus on the importance of setting a coherent cross-government direction to align government and stakeholder actions on chemicals. We have made two recommendations which if implemented together would make a significant contribution to ensuring chemicals are safely used and managed, and that the levels of harmful chemicals entering the environment (including through agriculture) are significantly reduced.

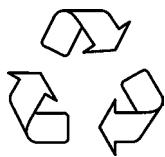
Recommendation 1: To make the management of harmful chemicals more efficient, coherent and transparent across the UK chemical regulatory framework, government should optimise the use of resources, expertise and cooperation among the UK bodies performing technical and policy work on chemicals. This would include improving the sharing and use of data across responsible departments, such as through a ‘one substance, one assessment’ framework.

Recommendation 2: To foster environmental improvement and economic growth, the government must establish a clear vision for UK chemicals policy, such as through a comprehensive UK Chemicals Strategy. This vision should include how it will prioritise addressing chemical risks and outline the development and implementation of a coherent, credible regulatory framework for chemicals.

Chapter 6: Maximise our resources, minimise our waste



Chapter 6: Maximise our resources, minimise our waste



6.1. Summary assessment

Government has committed to reducing residual waste and seeking to eliminate waste crime and avoidable plastic waste by 2042. It has also committed to eliminating avoidable waste and doubling resource productivity by 2050. Reducing waste and dependency on raw materials would benefit the economy, increase resource security and supply chain resilience, and reduce environmental impacts.

England is now using more resources with reduced efficiency. Although residual waste generation has stabilised, incineration continues to increase and recycling rates remain stalled. Measures to address illegal waste sites are broadly successful, but levels of fly-tipping and littering remain high.

Application of the waste hierarchy to minimise waste and increase reuse and recycling is limited, but development of a Circular Economy Strategy is welcome.

The prospect of government achieving its targets and commitments is largely off track. While a comprehensive and coherent Circular Economy Strategy can keep materials in circulation and reduce waste, additional medium and long-term waste management and waste crime reduction measures are needed.

Government can deliver a zero-waste economy that contributes to the achievement of environmental and climate commitments while supporting economic growth. More opportunities are offered by a Circular Economy Strategy delivered at scale and pace, that addresses key environmental pressures and harnesses synergies with chemicals, resources and green choice policies.

Table 6.1. Maximise our resources, minimise our waste – summary assessment

Past trends	Following a sustained period of reduction from 2004, resource use is now increasing and resource productivity decreasing. Residual waste generation has stabilised, but recycling rates continue to stall, and levels of incineration and hazardous waste generation continue to increase. Marine plastic litter and numbers of illegal waste sites have reduced, though littering and fly-tipping are increasing.	Trends show a mixed picture
Progress in the reporting period	Progress is being made to develop a Circular Economy Strategy and implement the delayed flagship waste management policies. Additional waste crime measures are needed and while published waste management reforms are welcome, the impact of unintended consequences for local authorities should be considered.	Limited
Overall prospects of meeting ambitions, targets and commitments	Circular economy measures will support waste reduction by increasing the circularity of materials but additional long-term waste policies that implement the waste hierarchy are needed to meet the governments EA21 residual waste target. A greater focus on littering, fly-tipping and plastic waste, including transboundary co-operation and taking a source-to-sea management approach are required.	Largely off track
Robustness	There are data gaps regarding waste, with more robust data available for local authority municipal waste. The assessment has used publicly available information, stakeholder engagement (with the Environment Agency in particular) and expert judgement.	

6.2 Context and commitments

The link between resource consumption, carbon emissions and environmental impacts is significant.⁴²⁶ Globally, the extraction and processing of material resources account for over 55% of greenhouse gas emissions and over 90% of land use related biodiversity loss and water stress.⁴²⁷

The National Risk Register cites risks to waste management relating to infrastructure, transport, societal disruption, cyber-attacks and natural hazards.¹⁵ The Chronic Risks Analysis identifies risks associated with pollution and environmental degradation caused by waste and highlights waste minimisation and circular economy measures as mitigation for risks to critical materials and food security.⁶

The Environment Act 2021 (EA21) target (the residual waste long-term target) is that by the end of 31 December 2042, the total mass of residual waste for the calendar year 2042 does not exceed 287kg per head of population in England. In 2023, residual waste was 558kg per head of population, representing a reduction of 17kg from 2019.

The waste management sector is crucial for climate mitigation and adaptation, producing 6% of UK greenhouse gas emissions in 2022.⁴¹⁹ It operates significant infrastructure and manages over six million tonnes of hazardous waste annually in England, restricting the release of potentially hazardous chemicals.⁴²⁸

The waste hierarchy ranks resource and waste management options according to what is generally best for the environment.⁴²⁹ It prioritises waste prevention, preparing unavoidable waste for reuse, recycling unavoidable waste (including composting), recovery of residual waste (incineration with energy recovery) and finally disposal of residual waste. Residual waste is any waste that originated in England and is treated by one of four treatment methods: sent to landfill, put through incineration (including Energy from Waste) in the UK, or sent outside the UK for energy recovery.

Government's long-term goal is to minimise waste, reuse materials as much as possible, and manage materials at the end of their life to minimise the impact on the environment. The Environmental Improvement Plan (EIP23) restates the 25 Year Environment Plan (25YEP) commitment to eliminate avoidable waste and double resource productivity by 2050.³⁶

This is alongside other commitments relating to residual waste: eliminating avoidable plastic waste, significantly reducing and, where possible, preventing all kinds of marine plastic pollution, and eliminating waste crime and illegal waste sites.

Defra has formed a task force to help government develop a Circular Economy Strategy for England which supports economic growth, green jobs, efficient and productive use of resources and net zero.³⁹⁸ Circular industries are growing 3.1% faster than linear industries, and may add £82 billion to the UK economy by 2030.⁹⁸

Target 16 of the Kunming-Montreal Global Biodiversity Framework is 'to enable sustainable consumption choices to reduce waste and over consumption'. The EA21 target is supported by EA21 interim targets to reduce both the total mass and the total mass per capita of residual waste by 31 January 2028.

Further EA21 interim targets for the same date cover municipal waste, including residual, food, plastic, paper and card, metal and glass. Additional commitments are to minimise biodegradable and food waste being sent to landfill, and to support sector efforts towards

achieving net zero. Government has not set a legally binding EA21 target for resource efficiency, only for waste reduction.⁴³²

This EIP23 goal focuses on four areas: the collection and packaging reforms, enabling people to take the right action, reducing use of materials, and tackling waste crime. Headline collection and packaging reform actions include a deposit return scheme for drinks containers, extended producer responsibility for packaging waste, and consistent (simpler) recycling collections for households and businesses.

The Resources and Waste Strategy aimed to deliver these measures between 2019 and 2023 however, delivery has been delayed to between 2025 and 2027.^{433,434} While revision of the Resources and Waste Strategy was planned for 2023/2024, for measures outside the scope of the Circular Economy Strategy, the EIP25 is expected to be the future delivery mechanism for waste management.

6.3. Key environmental trends

The transition to a circular economy – where the value of products, materials and resources is maintained for as long as possible while minimising waste – is crucial for developing a sustainable, low-carbon, resource-efficient, competitive and resilient economy ([Figure 6.1](#)).⁴³⁵

Economic benefits include supporting growth, reducing risk in supply chains, creating high-quality jobs, and supporting the drive to net zero. For society, a circular economy can lower the cost of living, extend the life of expensive products like electronics, and reduce waste and littering. For business, it can support higher resource productivity and profitability, open opportunities, increase resilience and reduce emissions.^{436–438}

Critical minerals, rare earth and technology metals that are abundant in the built environment, transport and electricals sectors would provide such opportunities. The UK imports nearly 100% of each of the 24 materials considered to be economically and strategically important and for which there are supply chain risks.⁴³⁹ Increasing circularity for these materials would support economic growth, progress towards governments waste, resources and net zero commitments and reduce the UK's reliance on increasingly competitive and politically vulnerable international supply chains.⁴⁴⁰

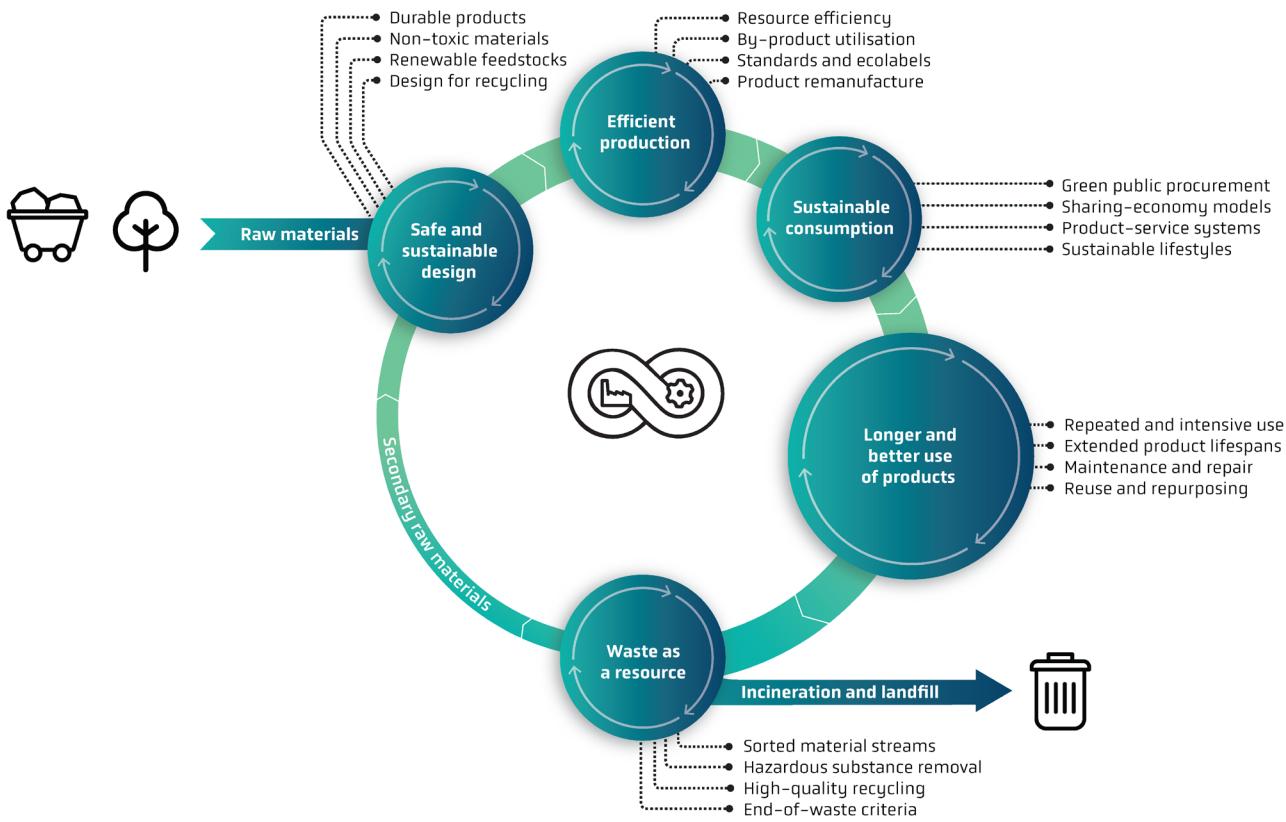


Figure 6.1. The relationship between resource extraction, circular economy and waste, with key policy actions.⁴⁴¹

In 2022, England's Circular Material Use Rate, or the proportion of material used that was sourced from recycled rather than virgin materials, was 17%, comparable to France (19.3%) and Italy (18.7%), and higher than the European Union average of 11.5%.⁴⁴²

The existing linear model of resource use assumes infinite resource availability and that nature has an inexhaustible capacity to regenerate.⁴⁴³ This model exposes the human and natural environment to waste and pollution through numerous pathways which are challenging to mitigate and have long lasting effects (see [Figure 6.2](#)).⁴⁴⁴ The circular economy aims to mitigate environmental and human health pressures by designing products, materials and infrastructure that go back into the economy after use, circulating products and materials at their highest value and regenerating nature.⁴⁴⁵

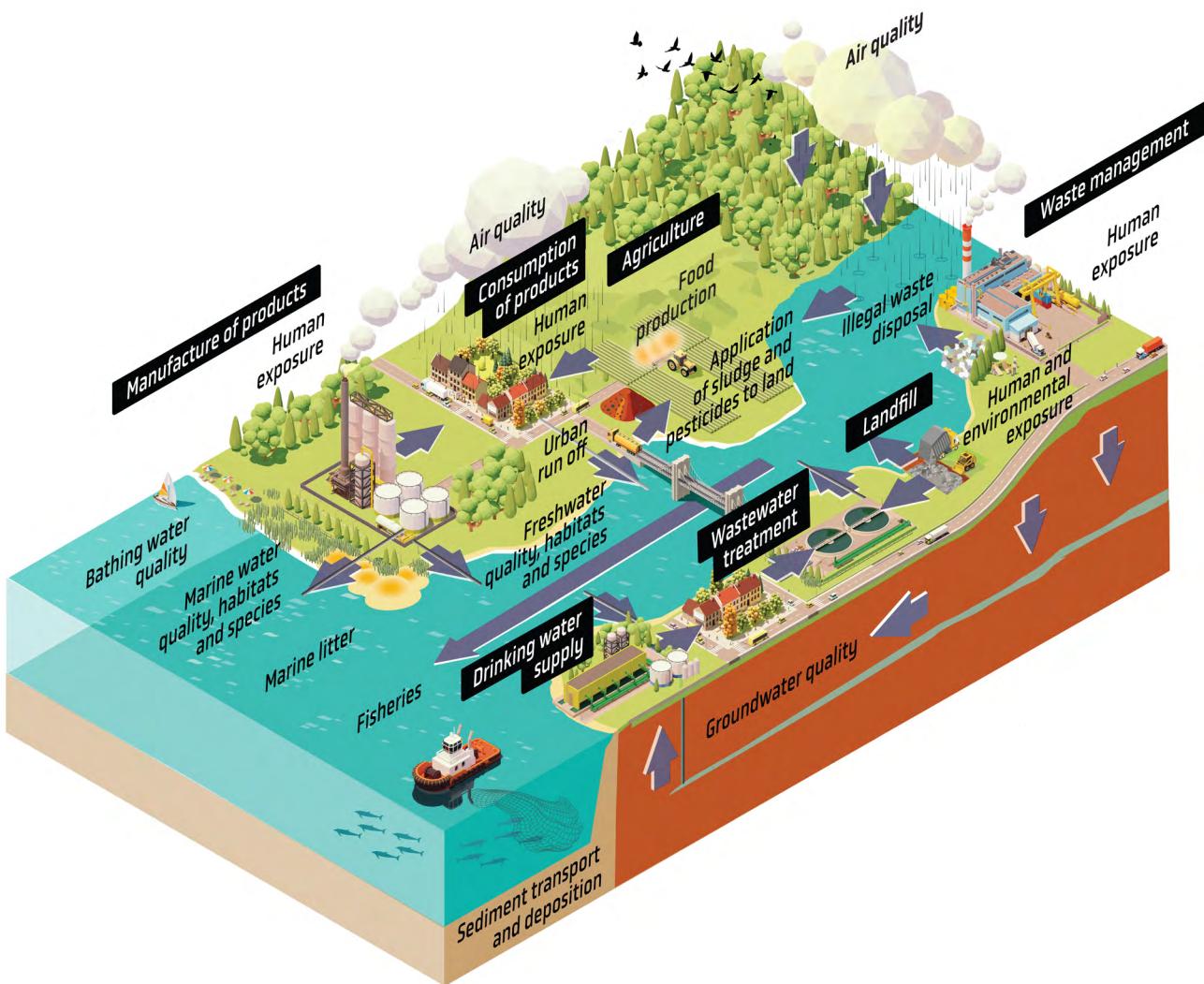


Figure 6.2. Pathways for waste and chemical release from products through the environment, showing the sources and sectors, pressures, and impacts.

In 2022, domestic material consumption in England was 428.53 million tonnes, with non-metallic minerals (primarily used in construction) representing the largest share at 184.2 million tonnes. Of this, 18% was sourced from recycled materials. Biomass consumption was 151.6 million tonnes (15% recycled), and fossil fuel consumption was 83.3 million tonnes (4% recycled).⁴⁴²

From 2004 to 2022, average raw material footprint per capita (excluding fossil fuels) decreased by around 18%.^{446,447} However, in the short-term (2017 to 2022) there has been a statistically significant increase of 18%. This represents an increase in consumption of 155 million tonnes during the assessment period, primarily driven by increased consumption of non-metallic minerals between 2020 and 2022.⁴⁴⁷

Resource productivity, a measure of how efficiently raw materials are used, provides an indication of the extent to which economic output is being decoupled from material consumption. However, it has limitations. Trends in non-metallic mineral use can dominate changes in resource productivity, and they may not capture the higher-value, lower-volume materials, or those with greater environmental impact.

In our 2022/2023 progress report, we found that trends suggested that relative decoupling was occurring, that is, the act of reducing the rate of use of resources per unit of economic activity. This has now reversed.

Resource productivity in England has improved in the long-term (2001 to 2021), with England generating approximately 22% more economic value (£/kg) per unit of raw material consumption than in 2001.⁴⁴⁶ However, in the short-term (2016 to 2021) there has been a statistically significant decline in resource productivity.

Waste management

Residual waste refers to discarded materials disposed of through incineration or landfill, or used in energy recovery and so lost to the economy.⁴⁴⁸ This is inefficient. It compounds the environmental and climate impacts of extracting and processing the original raw materials through the need for new raw materials for new products.

The OEP has commissioned research on how the waste hierarchy has been implemented in England to assess its effectiveness in delivering environmental outcomes. This involves engagement with representatives from local government, the wider public sector, industry and trade bodies, and with academics. Potential blockers include the lack of granularity in national waste datasets, especially regarding the nature of some of the large waste streams and the treatment methods. The final report will be published on the OEP website.⁴⁴⁹

In 2021, an average of 14.3 tonnes of raw materials was consumed per person in England.⁴⁵⁰ In 2023, 558kg of residual waste was produced per person, with 322kg incinerated, 208kg sent to landfill and 27kg sent outside the UK for energy recovery.⁴⁵¹

There has been no significant change in residual waste between the baseline period 2019 and 2023 ([Figure 6.3](#)), reversing a previously increasing trend. While Defra reports a 2.9% decrease in residual waste per person during the period, total residual waste is only 121,000 tonnes lower in 2023 than in 2019, remaining above 32 million tonnes.⁴⁵²

There continues to be a trend towards greater incineration, and a reduction in the amount of waste sent to landfill and sent abroad for energy recovery. Incineration with energy recovery contributes approximately 3%, and landfill gas approximately 1%, of UK electricity generation.^{453,454,455} Generating electricity from landfill gas supports the UK's obligations under the Global Methane Pledge.⁴⁵⁶ Incineration contributes to greenhouse gas emissions at rates comparable to those of coal-fired power stations, particularly when burning materials such as fossil-derived plastics.⁴⁵⁷ Governments Clean Power 2030 Action Plan however, excludes energy from waste as it is considered to be a waste treatment (avoiding landfill and incineration without energy recovery) rather than a primary method of energy generation.¹⁰²

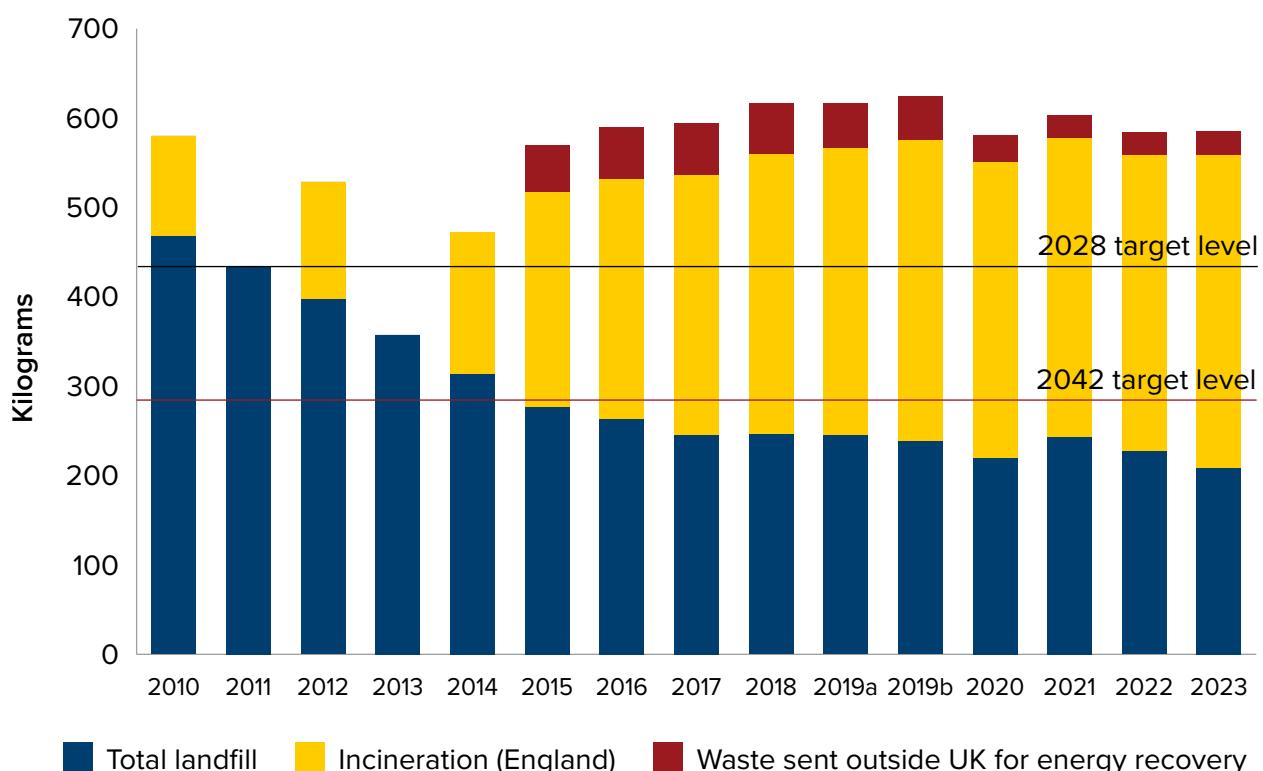


Figure 6.3. Residual waste generated and the proportion landfilled, sent outside the UK for energy recovery and incinerated in England per head of population, 2010 to 2022.⁴⁵⁸ Target level lines represent the 2028 EA21 interim target and 2042 EA21 long-term target for residual waste per capita.

There are EA21 interim targets for municipal waste, including total residual waste and residual food, plastic, paper and card, metal, and glass waste. Total municipal residual waste has shown little or no change between 2019 and 2023. During the same period, municipal residual food, plastic, paper and card, metal and glass waste per person saw a 3.5% decrease.⁴⁵²

Regarding e-waste, household waste electronic and electrical equipment waste collections increased by 0.6% between 2018 and 2024. However, the market for new electronic goods has increased by 25% during the same period, which may mean that electronic goods are remaining in use longer, or there are limitations in collection measures or behaviours (e.g., mixing with general waste rather than recycling).⁴⁵⁹

Government's Outcome Indicator Framework indicator on municipal waste recycling rates reports a deterioration in household recycling rates during the assessment period (2018/2019 to 2022/2023) following little or no change between 2013/2014 and 2018/2019.⁴⁶⁰ Recycling rates show significant regional variation. In 2023/2024 the highest recycling rate was in the south-west (approximately 49%) and the lowest was in London (approximately 29%).⁴⁶¹

Government has committed to seek to eliminate waste crime and eliminate avoidable plastic waste by 2042. Marine plastic litter poses a significant threat to marine life. Plastic items represent 94% of litter items found on beaches, and up to 74% of seabird species are reported to have ingested plastics across the North-East Atlantic.⁴⁶² From 2019 to 2023, 37% of fulmars (a species of marine bird known to regularly ingest litter) had more than 0.1g of plastic in their stomachs. There has been a statistically significant 23% reduction over

the period 2014 to 2018. However, this remains above the OSPAR threshold of 10% and at a level potentially contributing to the decline in the species.⁴⁶³

Hazardous waste provides a measure of hazardous chemicals that, if released or mismanaged, could pose a risk to health and/or cause environmental pollution. This continues to grow. There has been a statistically significant increase in hazardous waste management of 18% over the period 2019 to 2024. The Environment Agency report the increase may be due to greater economic activity and improved regulation and compliance, including reducing misdescription of waste streams through increased auditing. The Resources and Waste Strategy includes a commitment to consult on further ways to encourage hazardous waste producers to implement the waste hierarchy, but this is still forthcoming.⁴³³

Waste crime

Waste crime, including illegal disposal and fly-tipping, affects nature, human health, and the economy, and ranges from individual littering to large-scale fly-tipping and the operation of illegal waste disposal sites.

It is estimated that one-fifth of all waste produced in England may be illegally managed, at a cost to the English economy of £1 billion per year. Legitimate waste management businesses are outcompeted, and taxpayers incur the cost to stop and bring those responsible to justice and rectify the damage caused. Meanwhile private landowners face substantial bills to clear illegally dumped waste from their land.⁴⁶⁴

While it is estimated that 35% of waste crime is committed by organised crime groups, small scale fly-tipping is perceived to be worsening and littering is estimated to be impacting 94% of places people live.^{465,466} From 2018/2019 to 2023/2024, fly-tipping incidents increased by approximately 200,000 incidents reaching 1.15 million incidents in 2023/2024.⁴⁶⁷

A summary of the key trends we assessed is provided in [Table 6.2](#).

Table 6.2. Maximise our resources, minimise our waste – summary assessment of key trends

Indicator	Indicator trend	Trend time period
Resource productivity		2016-2021
Amount of raw material consumed		2017-2022
Residual waste		2019-2023
Percentage of sampled fulmars having more than 0.1g of plastic in their stomach, Greater North Sea ['marine Good Environmental Status' descriptor 'marine litter']		2014-2018 to 2019-2023
Number of illegal waste sites		2018-2019 to 2023-2024
Number of fly-tipping incidents		2018/2019-2023/2024
Hazardous waste disposal		2019-2024

Between 2018/2019 and 2023/2024 there have been statistically significant decreases in the total number of illegal waste sites and those classified as active high-risk.⁴⁶⁷ However, the National Waste Crime Survey found significant under-reporting of waste crime and respondents considered that the Environment Agency is not sufficiently resourced to effectively deter waste crime.⁴⁶⁵

6.4. Progress towards ambitions, targets and commitments

Resources

The APR 2025 reports the creation of a Circular Economy Taskforce to help government develop a Circular Economy Strategy for England for publication in Autumn 2025.³⁹⁸ The 25-year strategy will be supported by sector-specific 10-year roadmaps.⁴⁶⁸

Other developments include publication of the UK's National Biodiversity Strategy and Action Plan for 2030 – which includes the UK's commitments for Global Biodiversity Framework Target 16 related to sustainable consumption and waste – and publication of a circular economy delivery roadmap detailing waste and circular economy measures up to January 2028.^{71,434}

Data for England's material footprint were also published, showing significant dependence on international supply chains, with 83% of all raw materials and 73% of biomass resources being sourced internationally (see [Chapter 7](#)).⁴⁴⁷ Progress towards a Circular Economy

Strategy is welcome, but the scale and pace of ambition across government will be critical to delivering the change required.

Waste management

The APR 2025 reports progress with the collection and packaging reforms first announced in 2018.⁴³³ These include the Producer Responsibility Obligations (Packaging and Packaging Waste) Regulations 2024 and the appointment of the Deposit Management Organisation for the Deposit Return Scheme.

Further measures include legislation banning the supply and sale of disposable vapes in England and an announced UK-wide ban on the supply and sale of wet wipes containing plastic. There is also local authority funding for weekly food waste collections by 31 March 2026. In addition, reported figures show that by 2024, plastic bag use had fallen by more than 98% since the introduction of the single use carrier bag charge in 2015. Defra has also committed £15 million to tackle farm food waste and has been collaborating with international partners on the global treaty to end plastic pollution.

Regarding emissions from waste sites, Defra announced that new waste incinerators must meet high standards for air pollution and other environmental impacts. It also announced its intention to introduce decarbonisation readiness requirements for environmental permit applications submitted after 28 February 2026, for energy from waste plants. The aim is to reduce the proportion of waste being incinerated, which would in turn reduce pollutant emissions to air (see [Chapters 3](#) and [5](#)).⁴⁶⁹ The Department for Energy Security & Net Zero also launched a consultation on the extension of the UK Emissions Trading Scheme (UK ETS) to waste. In addition, the Environment Agency reports positive progress under the Methane Action Plan.⁴⁷⁰ This includes taking an evidence-based approach by using satellites to monitor emissions and initiate investigations.⁴⁷¹

There are additional Defra publications: a summary of the previous government's call for evidence on the elimination of biodegradable waste disposal to landfill, the Resources and Waste Strategy: Monitoring Progress Report, and the Residual Waste Infrastructure Capacity Note which assesses municipal residual waste and infrastructure capacity from 2020 to 2035.^{472,418}

Defra also announced that the digital waste-tracking service will become mandatory in October 2026.⁴⁷³ They also confirmed they would make first payments to local authorities from the packaging Extended Producer Responsibility Scheme in October 2025, and that the simpler recycling scheme would begin in March 2026 – with the Deposit Return Scheme going live in October 2027.⁴³⁴

Other published measures include UK Marine Strategy (UKMS) Part One: UK updated assessment and Good Environmental Status (GES) consultation including the assessment of the extent to which GES has been achieved for marine litter.^{52,474} The assessment finds that while marine litter levels remain high, beach litter is reducing, but seafloor litter is increasing.⁵²

Overall, progress has been limited. While implementation of the collection and packaging reforms is progressing, little has been done to review and evaluate current resources and waste policies, or to reverse the current stagnation in recycling by applying the waste hierarchy in priority order. There also remains uncertainty around waste policy beyond 2028.

Waste crime

Government continues to address waste crime, focusing on enforcement. The APR 2025 reports that extra funding has been provided to local authorities, National Rural Crime Unit and National Wildlife Crime Unit.

The Environment Agency launched the third national waste crime survey, warned landowners to secure premises against illegal waste dumping and took action against waste sites. It initiated action to clear waste from the Hoads Wood illegal waste site noted in our 2023/2024 progress report.⁴⁷⁵ It issued a closure notice for the Walleyes Quarry Ltd landfill site for failure to manage fugitive landfill emissions and gained an injunction against Himley Environmental for unabated landfill gas emissions.^{476,477} However, both companies have since entered liquidation, leaving the cost of potentially significant restoration work to the public purse.^{478,479}

Other published measures include an Environment Agency consultation on the introduction of environmental permitting charges designed to fund regulatory work targeting waste crime.⁴⁸⁰ Meanwhile, the Treasury announced a consultation on reform of the landfill tax system to reduce opportunity for waste crime.⁴⁸¹

Progress in addressing waste crime is mixed, with regulatory action focused on illegal waste sites showing progress. However, there is little progress in resolving widespread, diffuse waste crime such as littering and fly-tipping.

A summary assessment of the targets and commitments we assessed progress towards is provided in [Table 6.3](#).

Table 6.3. Maximise our resources, minimise our waste – summary assessment of progress over the annual reporting period towards meeting targets and other commitments

EA21 target	Progress
By the end of 31 December 2042, the total mass of residual waste for the calendar year 2042 does not exceed 287kg per head of population in England (the residual waste long-term target).	Limited
Other targets and commitments	
Eliminate avoidable waste by 2050 and double resource productivity by 2050 (25YEP).	Limited
Seek to eliminate waste crime and illegal waste sites by 2042, prioritising those of highest risk.	Mixed

6.5. Prospects of meeting ambitions, targets and commitments

Limited progress and delays in important policies mean that the prospect of achieving targets and commitments is largely off track. A summary assessment of the targets and commitments we assessed prospects of meeting is provided in [Table 6.4](#), with further detail provided below.

Resources

Recent trends indicate a reversal of resource decoupling, with increased raw material consumption and reduced resource efficiency.^{446,482} Risks including climate change,

biodiversity loss, geopolitics and competition are increasingly making present resource use unsustainable and supply chains less resilient.¹⁵

While government is developing a Circular Economy Strategy for England, measures beyond consultation are, at the time of writing, uncertain. Although welcome progress, taking a sector-specific approach may limit the creation of a true circular economy.⁴⁸³ Coherence with existing waste management policies is unclear. This is further compounded by a lack of additional waste management policies designed to meet the EA21 residual waste target. The role of the Circular Economy Taskforce following publication of the strategy is also unclear.

Barriers including low public familiarity with circularity also remain, although almost every aspect of modern life consumes natural resources and puts pressure on the environment.⁴⁸⁴ Cooperation across government, industry and other sectors is critical to the transition to a circular economy. As is the scale and pace of implementation and coherence with waste and chemicals policies.

Waste management

Measures to apply the waste hierarchy in priority order to minimise waste and increase reuse and recycling are largely ineffective.

The collection and packaging reforms are the delivery mechanism for 50% of the reduction in residual waste required to meet the EA21 target and the 2028 interim targets.⁴⁸⁵ The APR 2025 presents a qualitative assessment of progress towards the 2028 interim targets. Whilst progress is being made, implementation is expected to occur from 2025 to 2027, providing a limited period to support delivery of the 2028 interim targets.⁴³⁴ As there are no other medium- or long-term policy measures for waste management, the prospects of meeting the EA21 residual waste target and the 2028 interim targets are therefore largely off track.

The Residual Waste Infrastructure Capacity Note, forecasts that following implementation of the collection and packaging reforms, municipal residual waste will be 19.4 million tonnes in 2035.⁴¹⁸ Based on 2022 proportions, this suggests that, accounting for commercial and industrial waste, total residual waste will be approximately 24 million tonnes in 2035.⁴⁵² In 2023, total residual waste was 32.2 million tonnes. A further reduction of approximately 27% in total residual waste will therefore be required between 2035 and 2042 to meet the EA21 target (of approximately 17.6 million tonnes based on current population growth estimates).⁴¹⁸ The present forecast for the impact of collection and packaging reforms on municipal residual waste between 2020 and 2035 is 18%.⁴¹⁸

The Residual Waste Infrastructure Capacity Note also suggests the government is on track to send less than 10% of municipal waste to landfill by 2035. However, this is due to restricted landfill capacity rather than new waste minimisation policies. Without additional policies to implement the waste hierarchy, this may result in increased incineration. Also, ensuring sufficient incineration capacity, including 16 incinerators under construction, and/or the construction of new incinerators with carbon capture and storage that are located close to industrial clusters may limit the effectiveness of policy measures designed to move waste up the waste hierarchy.^{469,486,419}

The extension of UK ETS to the waste sector, the proposed reforms to Landfill Tax and actions resulting from a further consultation on the near elimination of biodegradable waste

to landfill are welcome.^{487,481,488} However, measures to avoid unintended consequences such as the potential substitution of plastics for waste wood and other biogenic wastes, which could otherwise be reused or recycled (and which are outside the scope of UK ETS) are needed. Other measures to complement these reforms to reduce residual waste and meet net zero targets are also required.⁴¹⁹

In the marine environment, progress is being made with marine litter but significant pressures remain. Approximately 80% of marine pollution comes from terrestrial sources where littering and fly-tipping remains very high. A source-to-sea management approach (see [Figure 6.2](#)) is required in addition to progress with marine targets and commitments across other EIP goals (see Chapters 2-10).⁶⁰ GES has not been met for marine litter, largely due to a predominance of plastic pollution (see [Chapters 2](#) and [7](#)), and plastic waste released to the ocean is projected to triple by 2040.^{65,489} Further action is therefore required.

Increasing international cooperation on plastics is critical.^{366,490} Alongside successful implementation of UK Marine Strategy Part Three measures, and terrestrial waste management and waste crime policies. Significant pressures from eroding coastal landfill sites, and micro-plastic contamination are also emerging risks.^{491,492}

Existing waste policies are not comprehensive and lack coherence. They focus on the lower levels of the waste hierarchy and on municipal waste and do not set out what is needed to achieve waste ambitions over the long-term or to achieve net zero.^{493,494}

Whilst effective implementation of the Circular Economy Strategy will support a reduction in residual waste, the lack of a coherent plan for waste beyond the collection and packaging reforms and for the effective application of the waste hierarchy is concerning. The lack of dedicated Waste and Resources and UK Chemicals strategies (see [Chapter 5](#)) may compound these issues and have implications for hazardous waste management.

Waste crime

Government focus on waste crime continues, but the scale of issues including fly-tipping and littering remain significant.

Efforts to combat waste crime by the Joint Unit for Waste Crime, Economic Crime Unit, National Rural Crime Unit and the National Fly-tipping Prevention Group are welcome.⁴⁹⁵⁻⁴⁹⁸ The collection and packaging reforms, mandatory digital waste tracking and the waste carrier brokers and dealers reforms are designed to reduce opportunity for waste crime and provide greater enforcement and monitoring.^{473,499,481}

The consultation on reform of landfill tax aims to divert waste from landfill and reduce the misdescription of waste.⁴⁸¹ However, the Environment Agency are concerned the proposals may lead to the displacement of waste crime to further up the supply chain and result in greater pressure on regulators. It is also unclear why the reforms could not be introduced before 2030.

Waste crime is still widespread. It is estimated that of all waste produced, 20% is illegally managed and 23% is misdescribed, affecting 50% of the waste industry at a cost in excess £60 million.⁴⁶⁵ Satisfaction levels regarding action taken by the Environment Agency in response to waste crime have increased. However, the Environment Agency is perceived to be ineffective at deterring waste crime.⁴⁶⁵ Waste crime reporting remains chronically

low, with estimates of only 27% of incidents being reported to the Environment Agency.⁴⁶⁵ Meanwhile, intelligence sharing between agencies with waste crime powers is seen to be ineffective, hampering awareness and an effective response.⁵⁰⁰

Enforcing waste crime and managing poorly performing regulated installations significantly strains available resources and affects the regulation of other sites. Since 2021, the Environment Agency has carried out over 180 inspections of the Walleys Quarry Ltd landfill site when approximately ten would be expected.⁴⁷⁶ The OEP is researching the implementation of the Environmental Permitting Regulations and a report will be published on our website.⁴⁴⁹

The challenge of fly-tipping continues to increase, with local authorities in England dealing with 1.15 million incidents in 2023/2024, incurring costs of approximately £400 million a year.^{501,502,467} Keep Britain Tidy report that it is almost impossible to find anywhere that is not impacted by litter, particularly in the most deprived areas.⁴⁶⁶

Circular economy measures will support waste reduction, but progress is needed with waste management policies that implement the waste hierarchy. The Litter Strategy for England commitments should be scaled up to cover wider waste crime, include robust targets and monitoring and put greater emphasis on a source-to-sea management approach.^{503,466} Promoting green behaviours offers opportunities to make current policies more effective.⁵⁰⁴

Table 6.4. Maximise our resources, minimise our waste – summary assessment of prospects of meeting targets and other commitments

EA21 target	Prospects
By the end of 31 December 2042, the total mass of residual waste for the calendar year 2042 does not exceed 287kg per head of population in England (the residual waste long-term target).	Largely off track
Other targets and commitments	
Eliminate avoidable waste by 2050 and double resource productivity by 2050 (25YEP).	Largely off track
Seek to eliminate waste crime and illegal waste sites by 2042, prioritising those of highest risk.	Largely off track

6.6 Opportunities for improvement

Resources and waste are still treated separately. Unsustainable resource use continues to create waste, environmental impacts and loss of valuable materials. In 2022, only 17% of materials used in England were sourced from recycled materials.⁴⁴²

Government can implement a Circular Economy Strategy that addresses resource use and waste, ensuring coherence across government policies, strategies, regulations and incentives by taking a whole economy approach.⁴⁸³ This can be delivered by applying lifecycle analysis, addressing known barriers, providing clarity on end of waste, supporting effective regulation and guidance, exploiting opportunities and retaining the circular economy taskforce in the long-term.^{484,505-508}

Waste and resource use are also transboundary issues. The Plastic Treaty negotiations ended without agreement, but government can lead further attempts to reach an agreement.⁴⁹⁰ Additional opportunities include measures to increase the sustainability of supply chains, the minimising of marine plastic waste and ensuring waste exported from the UK minimises environmental impacts.^{509,510}

There are other opportunities to enhance the growing demand for circularity, deliver the EA21 residual waste target and support economic growth.⁵¹¹ They include using incentives and disincentives across sectors and materials, including supporting innovation in circular industries, such as the storage and reuse of excavated soils, and chemical recycling.^{512,513,514} Mapping and targeting material recovery for critical minerals, rare earth and technology metals which are abundant in the built environment, transport and electricals sectors would provide further opportunities for innovation, economic growth and resource security.^{515,516}

Implementation of a circular economy is a long-term endeavour, and significant quantities of residual waste will remain during the transition. Current waste management measures will only deliver 50% progress towards the EA21 residual waste long-term target, and clarity is needed for delivery of the remaining 50%. Government has opportunity in the EIP25 and its other strategies to outline these measures, and develop a coherent plan to reduce resource use and waste generation by implementing the waste hierarchy.^{485,419} Exploiting further synergies with the Circular Economy Strategy, resource policies and other areas including chemicals can support economic growth, enhance resource security and support delivery of the EA21 residual waste target.

Local authorities manage around 40% of waste in England. Additional policy measures to reduce waste and deliver long-term policy certainty offer the opportunity to deliver the EA21 residual waste target and offset potential additional costs incurred through reforms to landfill tax, introduction of UK ETS, and requirements for the disposal of persistent organic pollutants and other hazardous wastes.^{517,518,420} Supporting innovation in the identification of hazardous substances in waste would provide further benefits.⁵¹⁹

Considering the long-term requirements for waste infrastructure is a positive development.⁴¹⁸ However, this approach should not prevent the consideration of further measures to apply the waste hierarchy in priority order, or further circular economy measures such as eco-design and the reduction of hazardous chemicals in products.

There are opportunities to address limitations within the residual waste infrastructure including incorporation of non-municipal and persistent organic pollutant waste. The Residual Waste Infrastructure Capacity Note should remain under review to deliver ongoing infrastructure planning and react to the impact of new waste and circular economy policies. Geographic gaps in infrastructure should be seen as opportunities to implement alternative waste management and circular economy measures, rather than expanding incineration capacity.

Government has additional opportunities to build on its existing waste crime measures. These include scaling up the activities of the Joint Unit for Waste Crime, Economic Crime Unit National Fly-Tipping Prevention Group in delivering waste crime interventions.^{498,495}

The National Waste Crime Survey, combined with other evidence, offer opportunity to prioritise major pressures.⁵²⁰ These include large-scale rural organised dumping, urban fly-tipping of household waste and waste misdescription.^{521,465} Addressing data gaps, particularly those related to the chronic under-reporting of waste crime offers more benefits.

For example, additional data would provide authorities with greater intelligence, the ability to track progress and support more effective policies and operational responses to resolve significant social and environmental impacts.

Effective regulation, for example in regulating waste duty of care, combined with policies to reduce residual waste can help minimise emissions that affect the environment and communities from both legal and illegal waste activities.^{465,522,523} The Environment Agency reports that, in 2023, most serious pollution incidents, particularly those involving noise and odour, originated from permitted waste sites. These issues remain a real concern for communities.⁵²⁴ Further opportunities exist to ensure the practice of disclaiming environmental permits is minimised so that environmental safeguards are upheld, particularly where companies enter voluntary liquidation.⁵²⁵

Keep Britain Tidy research finds drivers of littering and fly-tipping include low perceived impact, expectations of quick waste collection, social acceptance of certain fly-tipping, and the inconvenience of proper disposal.⁵⁰⁴ Integrating behavioural change and green choices into policy can enhance regulation and positively affect littering, waste crime, and recycling.

An updated Litter Strategy for England, expanded to include waste crime, with clear targets and monitoring, and developed in alignment with circular economy and waste policies – such as those related to marine litter – could further optimise behavioural, regulatory, and macro-economic outcomes across government resource and waste initiatives.^{526,466}

Recommendations for maximise our resources, minimise our waste

In our 2022/2023 progress report we made four recommendations relating to targets, policy development and behaviour change. Progress to date has been limited so these issues are reflected in subsequent recommendations.

In our 2023/2024 progress report we made two recommendations relating to waste management and circular economy.

Government has partially accepted our recommendation to implement the delayed digital waste tracking scheme and collection and packaging reforms along with further supporting measures.⁵²⁷ Progress during the annual reporting period has been mixed. While actions are being taken to progress the delayed measures, there is still a lack of medium and long-term measures to deliver the EA21 target on residual waste and other commitments. Therefore, this recommendation still stands.

Government accepted and deferred a full response to our recommendation on accelerating progress towards a zero-waste economy. We are unable to assess progress regarding this recommendation as the Circular Economy Strategy is still in development. Therefore, this recommendation still stands.

This year we focus on waste crime.

Recommendation 1: Defra should accelerate progress on waste crime by developing coherent policies and strategies designed to deliver the commitment to seek to eliminate waste crime by 2042. The policies should maximise the role of multi-agency groups, support effective regulation in areas such as the waste duty of care and increase coordination between agencies. They should target key pressures in the urban, rural and marine environments to deliver progress towards the commitment and help reduce significant environmental and societal impacts.



Chapter 7:

Using resources from nature sustainably

Chapter 7: Using resources from nature sustainably



7.1. Summary assessment

Natural resources are the foundation on which the economy and society are built. Using natural resources, such as timber, fish and food, in a sustainable and efficient way is essential to achieving government's priority of ensuring nature's recovery while underpinning resource security and supporting economic growth.

Unsustainable resource use is a driver of climate change, biodiversity loss, soil degradation and deforestation and generates waste. Resource use and international competition for resources are increasing and the environmental impacts are too high.

Progress on increasing the sustainability of resource use is limited. Measures to improve soil health and the sustainability of timber and fisheries have been implemented, but greater ambition is needed. Meanwhile gaps remain in increasing the sustainability of supply chains, sludge reuse and urban soils.

Government has opportunities to improve outcomes on specific resources. It can ensure an increasing proportion of fisheries are operating in line with scientific advice. Fulfilling commitments on forest risk commodities – while working with business to bolster sustainability initiatives and improve reporting – can support the sustainability and resilience of supply chains.

Demand and international competition for natural resources are growing. Government should take a systems approach to create and deliver coherent, nature positive resource policies that increase resource security. This would support economic growth and contribute to wider environmental improvements.

Table 7.1. Using resources from nature sustainably – summary assessment

Past trends	The sustainability of fisheries is improving but there are significant data gaps and many stocks are in decline. While deforestation associated with UK consumption has decreased, water scarcity and biodiversity impacts have increased. The percentage of sustainably managed woodland in England has decreased. Progress is being made, but a soil health indicator remains a significant gap.	Trends show a mixed picture
Progress in the reporting period	Progress towards increasing the sustainability of agricultural and peat soils and implementation of agroforestry measures is positive. Measures to increase the sustainability of fisheries have been published, but delays and limitations have resulted in limited progress. Increased tree planting is welcome, but progress towards increasing domestic timber supplies is limited.	Mixed
Overall prospects of meeting ambitions, targets and commitments	Government is largely off track to meet commitments on using resources from nature sustainably. Measures to deliver sustainable soils are positive, but gaps remain, including for urban soils. The coherence of policies to deliver a nature-friendly food system are also unclear and the lack of a single government strategy that articulates the vision for the timber sector is also concerning.	Largely off track
Robustness	The assessment has used sources of publicly available information, stakeholder engagement (with the Forestry Commission in particular) and expert judgement. Key data gaps remain around soil health, sustainable fisheries and the environmental impacts of supply chains.	

7.2. Context and commitments

Natural resources are essential for food production and the goods and services that support our health and wellbeing. However, supply chains that extract resources at rates faster than nature's capacity to replenish them is resulting in biodiversity loss, deforestation and contributing to climate change.

The unsustainable consumption of resources sourced from the UK impacts the natural environment and limits progress towards Environmental Improvement Plan (EIP) targets and commitments. Imported products and commodities have similar impacts in international supply chains, where the UK consumption of beef, timber and oil palm contributes to deforestation in countries such as Brazil, China and Ivory Coast.⁵²⁸

Using resources efficiently and sustainably can increase economic growth, resource security and supply-chain resilience and offer opportunities for nature-friendly farming, managing land and sea demands and developing a circular economy.

This EIP23 goal seeks to protect and enhance natural capital, valued at £1.4 trillion.⁵²⁹ It acknowledges the need to use resources efficiently and emphasises the need to scale up actions to protect and enhance resources for future generations.³⁶

Climate change, extreme weather events and invasive non-native species (see Chapter 8–10) affect resource sustainability and supply. Urbanisation, consumption patterns and competing demands for land and marine space significantly contribute to environmental pressures (see [Chapter 2](#)), but coherence between resources and nature policies offer significant benefits (see [Chapters 2 and 6](#)).

The National Risk Register highlights risks to supply chain resilience.¹⁵ They include infrastructure, transport, societal disruption, animal and plant health and natural hazards (see [Chapter 8](#)). The Chronic Risks Analysis identifies logistical and geopolitical vulnerabilities in the UK's global import and export supply chains, that are worsened by resource use pressures, including biodiversity loss and pollution.⁶

The EIP23 aims include maintaining a sustainable, long-term UK timber supply while addressing illegal deforestation in international supply chains. Measures include the 2050 target for woodland and trees outside woodland (an Environment Act 2021 (EA21) target).⁵³⁰ This states that by the end of 31 December 2050 at least 16.5% of all land in England is covered by woodland and trees outside woodland.⁵³¹ Other actions include improving woodland management for sustainable timber production, building the capacity of the forestry sector and implementing due diligence legislation for forest risk commodities. These are intended to contribute to more sustainable supply chains and the commitment to halt and reverse forest loss and land degradation globally by 2030.

Target 10 of the Kunming-Montreal Global Biodiversity Framework is 'to enhance biodiversity and sustainability in agriculture, aquaculture, fisheries and forestry'.⁵³² Target 16 is 'to enable sustainable consumption choices to reduce waste and over consumption'.⁵³³

Government has committed to speeding up action on the marine environment.⁴⁹ The EIP23 commits to ensuring that all fish stocks are recovered to and maintained at levels capable of producing their maximum sustainable yield. This is in addition to the requirement in the Marine Strategy Regulations 2010 on the Secretary of State (among others) to take necessary measures to achieve or maintain Good Environmental Status (GES) of marine waters by 31 December 2020 (see [Chapter 2](#)).³⁵

One descriptor used to determine the achievement of GES is that populations of all commercially exploited fish and shellfish are within safe biological limits. Measures to achieve this include Fisheries Management Plans (FMPs). These are intended to be the blueprints for how best to manage fish stocks using best available science and the experience of fishers and anglers to set out actions to manage them sustainably.⁵³⁴

An important aspect of government's commitment to get nature-friendly farming right is ensuring that soils are healthy and sustainably managed. The 25 Year Environment Plan contained a commitment that, by 2030, all of England's soils would be sustainably managed.¹⁶² However, this was not retained in the EIP23, which commits to bringing at least 40% of England's agricultural soil into sustainable management by 2028 and increasing this to 60% by 2030 through new farming schemes. Government also committed to publishing a baseline soil health map for England by 2028 to establish the baseline data needed for monitoring soil health.

Government has committed to boosting food security and the EIP23 recognises that food security is dependent on a healthy and sustainable natural environment. The Food Strategy for England sets out priority outcomes for healthier and more affordable food, good growth, sustainable and resilient supply chains and vibrant food cultures. In 2020, the UK imported 46% of its food, valued at £48 billion, and in 2023, imported 80% of its wood and timber, valued at £9 billion.^{535,536}

7.3. Key environmental trends

Sustainable supply chains

From 2017 to 2022, there was a statistically significant decrease of 21.6% in the global impact of UK consumption on deforestation associated with crop, cattle-related and timber commodities. However, water scarcity increased by 19% and biodiversity loss increased by 12% during the same period.⁵³⁷

There are no UK Biodiversity Indicators for marine resource consumption. Terrestrial indicators focus on land use change, but do not consider subsequent environmental impacts such as nitrogen pollution caused by agriculture.⁵³⁸

Government reports that between 2015 and 2019 the amount of land globally that was reported as degraded increased from 11.3% to 15.5%. Agriculture was noted as the largest single source of land and environmental degradation and the biggest source of freshwater pollution.⁵³⁹

Between 2003 and 2023, UK domestic fruit production increased from 8% to 16%. However, the UK is still highly dependent on international supply chains for fruit, vegetables and seafood, contributing to pressure on global natural resources and within supplier nations with their own climate and sustainability risks.⁵³⁹

Sustainable timber

The UK is dependent on international supply chains for timber. Globally, in 2024, the UK was the second largest importer of timber with imports of approximately 24 million tonnes, with a value of £9.4 billion.^{536,540}

Between 2005 and 2022, total forest loss associated with UK consumption of crop, cattle-related and timber commodities was over 1 million hectares.⁵³⁷ In 2022, UK consumption led to an estimated 35,600 hectares of agriculture-driven deforestation worldwide. This represents a 54.3% reduction from 2005. However, the rate of improvement has slowed since 2013.⁵⁴¹ Drivers include the consumption of cattle, cocoa beans, coffee and rice.

Increasing sustainable domestic timber supplies is important for resource security and attainment of government's nature and climate commitments. Sustainable management supports woodland health, including biosecurity (see [Chapter 10](#)) and resilience to winds and storms by limiting overstocking. As a result, the sustainable management of woodland will become increasingly important as the effects of climate change increase (see [Chapter 8](#)).⁵⁴²

Sustainable management further maintains and enhances woodland and forest capability to produce timber and deliver other environment and societal benefits.⁵⁴³ However, compliance with the UK Forestry Standard, government's benchmark for sustainable forestry, is monitored through the identification of non-compliance within existing grant and regulatory approvals, rather than through auditing or inspection of implementation.^{543,544}

In 2024, production of softwood and hardwood in England was 2.6 million tonnes.⁵⁴⁵ While representing an increase from 2010, levels have seen little or no change since 2013.⁵⁴⁶ The gross value added of the forestry sector to the economy in England was £683 million in 2023, representing an increase of 162% on 2018.⁸⁰

The natural capital of England's forests had an estimated value of £63.5 billion in 2022/2023.⁵⁴⁷ Of this, £17.4 billion was due to carbon sequestration (see [Chapter 8](#)), £24.3 billion to recreation and public access (see [Chapter 11](#)), £1.2 billion to mitigating flooding (see [Chapter 9](#)) and £1.3 billion to benefits to air quality (see [Chapter 3](#)).⁵⁴⁷ The ecosystem services value of woodland timber provisioning was £2 billion in 2021.⁵⁴⁸

The Outcome Indicator Framework has two indicators that provide information on English timber resources. From 2020 to 2025, the percentage of woodland in England that is sustainably managed, and therefore likely to produce timber, showed a statistically significant decrease of two percentage points to 57% ([Figure 7.1](#)). The deterioration is largely due to long-duration grant schemes ending during the period. From 2019 to 2024, the percentage of the annual growth of trees in English woodlands that is harvested also decreased.⁵⁴⁹

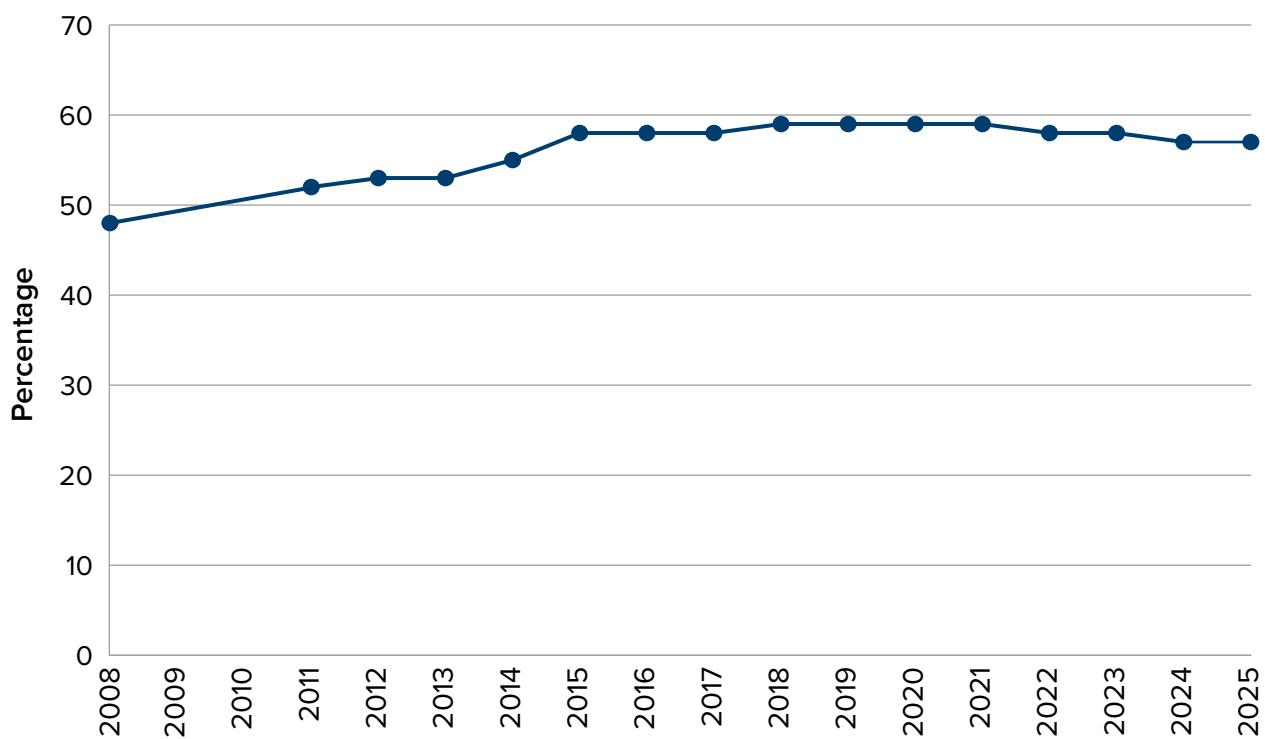


Figure 7.1. Proportion of woodland in England that is sustainably managed, from 2008 to 2024.⁵⁵⁰

Sustainable fisheries

The percentage of fish and shellfish stocks harvested sustainably, is an indicator of fishing pressure on 57 species. The available data shows a statistically significant improvement of 18.5% between 2015 and 2020.⁶² However, GES for commercial fish and shellfish stocks is only partially met and 21% of stocks are subject to fishing pressure above the acceptable mortality range and stocks with unknown status remains concerningly high at 23%.^{474,62}

Total allowable catches (TACs) are set by government through negotiation with different coastal states and are informed by national legal and policy objectives and scientific advice from the International Council for the Exploration of the Sea.⁵⁵¹ They combine the maximum sustainable yield of a stock with a precautionary approach. Between 2020 and 2025, the total number of TACs meeting scientific advice increased from 27 to 36, representing 46% of the total.⁶¹

Sustainable soils

Soil is extremely varied.⁵⁵² Healthy soils provide the foundation for terrestrial ecosystems and food production. They also fulfil other essential functions, including reducing flood risk and sediment transfer to surface waters, reducing pollution, sequestering atmospheric carbon, protecting cultural heritage and providing a stable platform for buildings.⁵⁵³ Soil should be regarded as a non-renewable resource and afforded the same status as air and water.^{554,555}

There are many risks to soil. Physical risks include compaction, sealing and erosion. Chemical risks include nutrient removal, acidification, and contamination in the form of chemicals and microplastics.⁵⁵⁶ Biologically, the loss of soil organic matter and

microorganisms affects soil's ability to support ecosystems and agriculture. Soil is vulnerable to climate change, including rising temperatures and changing precipitation patterns (see [Chapter 8](#)).⁵⁵⁷

A robust monitoring system is crucial to ensure that soil health is maximised and the most effective policies are implemented across the whole spectrum of land use, from built environment through to agriculture and nature recovery.⁵⁵⁸ The Outcome Indicator Framework indicator for soil health is the last in government's framework without data. Government reports that an interim indicator will be published in 2026 and a final indicator in approximately 2029 based on a 5-year data collection cycle.⁵⁵⁹

A summary assessment of the key trends we assessed is provided in [Table 7.2](#).

Table 7.2. Using resources from nature sustainably – summary assessment of key trends

Indicator	Indicator trend	Trend time period
Percentage of woodland that is sustainably managed		2020-2025
Fish stocks that are sustainably harvested [marine Good Environmental Status descriptor 'commercial fish']		2015-2020
Soil health		
Global environmental impacts of UK consumption of key commodities		2017-2022

7.4. Progress towards ambitions, targets and commitments

Sustainable supply chains

The commitment to halt and reverse global forest loss and land degradation by 2030 was agreed at the 2021 United Nations Climate Change Conference – COP26. In 2021, the UK imported 81% of all timber.⁵⁶⁰ Global timber demand is predicted to quadruple by 2050 and domestic softwood availability will peak by 2041, with pests and diseases further affecting supplies and prices.^{561,562}

In our 2023/2024 progress report, we recommended government publish the list of commodities covered by the scheme set out in the Environment Act for due diligence on forest risk commodities and the secondary legislation needed for implementation. The previous government published the list, but the secondary legislation is yet to be progressed.⁵⁶³ Government has also yet to progress the Financial Services and Markets Act 2023 commitment to assess the extent to which regulation of the UK financial system is adequate to eliminate financing of prohibited forest risk commodities.⁵⁶⁴

Government has reaffirmed UK's commitment to join the Global Alliance Against Hunger and Poverty, and announced investment in global food security.⁵⁶⁵ The Food Security Report

found stable food production, but highlighted climate change, water insecurity, nature loss, and the decline of natural capital as significant risks.⁵⁶⁶

Other developments include publication of the UK's National Biodiversity Strategy and Action Plan for 2030.⁷¹ This reaffirms the UK's commitments for Kunming-Montreal Global Biodiversity Framework Target 10 related to resource use.

Sustainable timber

Tree planting is critical to achieving the commitment to maintain a sustainable, long-term UK timber supply and the 2050 target for woodland and trees outside woodland (an EA21 target) (see [Chapter 2](#)).

Government announced new agroforestry offers through the Countryside Stewardship and Sustainable Farming Incentive schemes.⁵⁶⁷ Monitoring the uptake and effectiveness of these incentives is essential to speed up progress.

Whilst agri-environment schemes will deliver some tree planting measures, these are primarily aimed to achieve biodiversity objectives and are less likely to produce economic benefits such as through the sale of timber.⁵⁶⁸ Furthermore, although the area of woodland in England has shown little or no change between 2020 and 2025 (see [Chapter 2](#)), the proportion of conifer woodland, most likely to produce significant timber supplies has fallen by 10% during the same period.⁵⁶⁹

The Annual Progress Report 2025 (APR 2025) reports that production of saplings for tree planting was around 8 million higher in 2023/2024 than in 2022/2023.⁵⁷⁰ The Timber in Construction Roadmap was launched to increase the use of timber in buildings to store carbon and indirectly stimulate forestry along with a consultation on the compliance of certification schemes with the UK Timber Procurement Policy.^{571,572}

Other published measures include The Forestry Commission annual report which highlights risks from the lack of ambition of targets, uncertainty in future funding, retention and recruitment of expertise, climate change and biosecurity.^{573,85}

The Forestry Commission also published the updated UK Forestry Standard.⁵⁴³ This contained new measures for soil protection and timber production, and launched the Trees to Timber campaign, (which promotes the economic and environmental benefits of timber production) and the Woods Into Management Forestry Innovation Funds.^{574,575} Also included were deer control and management grants seeking to reduce browsing and increase natural woodland regeneration.⁵⁷⁶

Sustainable fisheries

Sustainable fisheries management is crucial for fish stock supply and the communities they support and is essential for delivering the overarching goal of achieving GES in marine waters. One indicator is whether populations of commercially exploited fish and shellfish are within safe biological limits.³⁶⁷ The Fisheries Act 2020 and Joint Fisheries Statement require the UK fisheries policy authorities to publish FMPs which set policies and actions for long-term fish stock sustainability and other ecosystem objectives (see [Chapter 2](#)).^{149,577,578}

The APR 2025 reports progress in implementing management measures within Marine Protected Areas (MPAs), with 60% of 181 MPAs having 'some management in place to

protect features against damaging fishing activity'.⁴⁹ However, the supporting evidence for the EA21 target for condition of protected features in MPAs assumed that 'all pressures on features are removed by 2024' through management measures.³² This milestone was missed (see [Chapter 2](#)).

The UK Marine Strategy Part One (UKMS Part One) reports partial achievement of GES for commercially exploited fish and shellfish.⁵² However, only 42% of quota fish stocks and 11% of non-quota shellfish stocks met GES criteria.⁴⁷⁴

Government published an independent assessment of the sustainability of fisheries catch limits negotiated by the UK, meeting an EIP commitment. It finds a history of overfishing, which the current management structure is unlikely to prevent.⁶¹

Following the publication of six 'frontrunner' FMPs, a further five have been published for consultation.⁵⁷⁸ Defra published a report outlining evidence gaps for successful FMP implementation.⁵⁷⁹ Our analysis indicates improvements in the latest FMPs and a better application of the precautionary principle. However, some actions and measures lack definition and urgency, and the next set of FMP consultations are expected to be subject to delays.¹⁵¹

Defra also published the UK Marine Strategy Part Three (UKMS Part Three) three years after the statutory deadline and nearly a decade after the publication of the first iteration.⁶⁷ It is our view that the updated UKMS Part Three does not reflect the fully evidenced, resourced and time-bound delivery plan needed to achieve GES as soon as possible (see [Chapter 2](#)). Delays in developing indicators, lack of thresholds for non-quota stocks, and data limitations further hinder progress.⁵⁴

Sustainable soils

Government recognises that land is our greatest natural asset and soil is central to this.³⁴⁴ However, government stepped back from The 25 Year Environment Plan commitment to sustainably manage all soils to focus on agricultural soils, where farming incentive schemes are the key delivery mechanism (see [Chapter 2](#)).

The APR 2025 reports new Sustainable Farming Incentive (SFI) actions for soils and research funding to improve productivity and sustainability. Government also launched a SFI action to minimise the use of herbicide and published the UK Pesticides National Action Plan 2025, with the aim of encouraging the uptake of Integrated Pest Management (see [Chapter 5](#)).³⁷⁴

During the annual reporting period, Natural England published further steps towards developing an England Peat Map.⁵⁸⁰ The Climate Change Committee notes the map will improve understanding and support peatland restoration, but highlights that peatland restoration is not formally reported (see [Chapter 8](#)).¹²⁶ The Environment Agency has also published its Agricultural Land and Environment Risk and Opportunity Tool, used by Catchment Sensitive Farming Advisers to help farmer discussions and on-farm targeting of measures for soil and water.⁵⁸¹

Further measures for peat soils include a consultation to extend the ban on burning deep peat in the uplands, the revised UK Forestry Standard requirements to assess planting on peat soils, and Natural England's commitments through the Nature for Climate Peatland Grant Scheme.^{582,543,583} However, Natural England report that delivery is lower than expected due to feasibility, weather and funding uncertainties.

Peatlands are very sensitive to atmospheric ammonia (see [Chapter 3](#)). The Environment Agency has worked during the annual reporting period to understand and reduce emissions from agricultural and industrial sources.^{584,585}

In 2021, built up areas covered 11% of England, but were home to 94.9% of the population.⁵⁸⁶ A significant proportion of the 300,000 hectares affected by industrial use are located in built up areas.⁵⁸⁷ This creates pressure on the environment and human health, but such land represents the potential to build 1.5 million homes, and can deliver wider social and environmental benefits if undertaken sustainably (see Box 7.1).^{588,589}

While many such sites are redeveloped through the planning regime, local authorities and the Environment Agency have powers under Part IIA of the Environmental Protection Act 1990, to identify and remediate contaminated land not being dealt with through the development process.⁵⁸⁷ The previous assessment of progress was published in 2016 and so we welcome government's announcement of a new State of Contaminated Land Report, to be published in spring 2026.⁵⁹⁰

In our 2023/2024 progress report, we recommended government should define sustainable soil management in a systems-based framework, develop indicators, and evaluate current regulatory and governance frameworks to support policy development and implementation. There has been progress towards the Soil Health indicator, but it has been limited.

Sustainable food system

A sustainable food system delivers food security and nutrition for all. It is also economically sustainable, provides benefits for society and is environmentally sustainable.⁵⁹¹

Natural England finds that of 11 ecosystem services that support the food system in England, eight are at high-risk and three at medium-high risk. For enclosed farmland 10 of 11 benefits identified are classified at medium-high risk.⁶⁰ Drivers identified include land-use change, pollution, climate change and invasive species.

During the annual reporting period, government announced plans to create a new Food Strategy for England.^{40,592} The strategy published in July 2025, sets 10 priority outcomes for healthier and affordable food, good growth, sustainable and resilient supply chains and vibrant food cultures (see [Chapter 12](#)).⁴⁰ Government also published its Food Security Report, which found climate change, water insecurity and decline in natural capital to be pressing risks.⁵³⁹

Government also announced a 25-year Farming Road Map focusing on food production, economic sustainability and nature recovery.⁵⁹³ It also launched the Land Use in England consultation (see [Chapter 13](#)).³⁴⁴ We welcome the principles of the Land Use consultation, including the interaction between the EIP, the Farming Road Map and the Food Strategy to achieve goals for nature and climate while maintaining food production.³⁴⁵

Overall progress in the annual reporting period towards sustainable use of natural resources has been mixed. Where policy progress has been made, the pace of implementation needs to speed up to deliver positive outcomes.

[Table 7.3](#) provides a summary assessment of the targets and commitments we have assessed.

Table 7.3. Using resources from nature sustainably – summary assessment of progress over the annual reporting period towards meeting targets and other commitments

Targets and commitments (EIP23 unless otherwise indicated)	Progress
Halt and reverse forest loss and land degradation globally by 2030.	Mixed
All fish stocks are recovered to and maintained at levels that can produce their maximum sustainable yield.	Limited
Take the necessary measures to achieve or maintain Good Environmental Status of marine waters within the marine strategy area (deadline passed on 31 December 2020) – specifically the ‘Commercial fish’ descriptor overarching target (that populations of all commercially exploited fish and shellfish are within safe biological limits) (Marine Strategy Regulations 2010 and Marine Strategy).	Limited
Bring at least 40% of England’s agricultural soil into sustainable management by 2028 and increase this to 60% by 2030.	Mixed

7.5. Prospects of meeting ambitions, targets and commitments

The prospects of government achieving its commitment to use resources from nature sustainably is largely off track. A summary assessment of the targets and commitments we assessed is provided in [Table 7.4](#), with further detail provided below.

Government identifies the reliance on global supply chains as a chronic risk, with risks including geopolitics and the high interconnectivity of key logistic hubs. Future uncertainties include competition, climate change and plant and animal diseases. UK sourced resources and a circular economy are identified as key mitigations.⁶

Sustainable timber

Government published its list of forest risk commodities that are subject to the EA21 prohibition on regulated persons using illegally produced commodities in their UK activities. However, the Environmental Audit Committee considers current UK regulation to be insufficient to limit non-sustainable deforestation, relying heavily on the laws of exporting countries.⁵⁹⁴

Ensuring forest certification schemes meet Category A of the UK Timber Procurement Policy will enhance sustainability.⁵⁷² Government has yet to bring forward the necessary secondary legislation to operationalise the requirements of Schedule 17 of the EA21 and the Treasury has still not carried out its review of the adequacy of the UK financial system for the purpose of eliminating the financing of the use of prohibited forest risk commodities under the Financial Services and Markets Act 2023.^{563,564}

The reliance on timber imports and lengthy supply chains, at a time of rising global demand and impacts from climate change and biodiversity loss, is concerning.^{528,6,560} Meanwhile government is also seeking to increase timber use in construction, when domestic timber production is predicted to decline beyond 2040.⁵⁶³

Developing new sources of domestic timber is important for resource security, net zero commitments and economic growth. Measures under agri-environment schemes, the revised UK Forestry Standard and Woods Into Management Forestry Innovation Funds

seek to increase timber production.^{595,543,575} Government must ensure these measures are implemented at the scale and pace necessary.

The National Wood Strategy aims to increase timber production in England through a collaborative, cross-sector approach.⁵⁹⁶ However, the Environmental Audit Committee notes the lack of a single government strategy that clearly articulates the vision for the timber sector and how it plans to integrate policy with nature recovery and climate change mitigation.⁵⁶⁰

Sustainable fisheries

In our response to the latest FMPs consultation, we welcome improvements but note that some actions and measures are poorly defined and lack urgency.¹⁵¹ Addressing the published evidence gaps and prioritising activities in response will support the progress needed.⁵⁷⁹

The UK committed to sustainable fisheries management in the Joint Fisheries Statement.⁵⁷⁷ The assessment by the Centre for Environment, Fisheries and Aquaculture Science (Cefas) of the sustainability of Total Allowable Catches (TACs) negotiated by the UK for 2025 highlights that 52% of TACs were not set in line with scientific advice. Limited progress and ongoing challenges suggest it is unlikely the majority of TACs will be aligned with scientific advice.⁶¹

The latest GES assessment shows partial achievement for commercial fish and shellfish. However, only 42% of quota fish stocks and 11% of non-quota shellfish stocks met the GES criteria, and significant data gaps remain.⁴⁷⁴ Government has set out measures in the updated UKMS Part Three, but our view is that this does not form the fully evidenced, resourced and time-bound delivery plan needed to achieve GES as soon as possible.⁶⁷

UKMS Part One states that non-quota stocks lack an agreed methodology to set an equivalent to maximum sustainable yield.⁵² As many of these stocks are shared and jointly managed with other countries, government should work with international partners under the Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR Convention) to ensure sustainable quotas are implemented.⁵⁹⁷

Commercial fishing activities directly affect fish and shellfish populations through mortality rates and biomass extraction. 50% of the top 10 stocks on which UK fishing relies are over-fished or over-exploited, with other stocks being so historically depleted that they no longer appear in statistics.⁵⁹⁸ Increasing pressures include renewable energy, coastal defence, marine transport, and extraction of aggregates.⁴⁷⁴

Emerging issues include the expected expansion of aquaculture which may have positive and negative impacts on achieving GES, including the effects on native and wild fish stocks, and the impacts of terrestrial-marine connections including nutrient management and litter.⁵⁹⁹⁻⁶⁰¹

Biodiversity loss, pollution, and environmental degradation pose further long-term risks.⁶ Climate change poses significant challenges through changes to stock distribution, decline of cold-water species, and episodic shocks like heatwaves. While some stocks have increased and may offer future opportunities, many more are in decline.^{602,598}

Sustainable soils

Soil is mentioned in over 2000 pieces of UK legislation but there is no overall soil law. The legislative framework is fragmented with only some aspects protected relating to

agriculture, contamination, climate change, waste, water and land use.⁶⁰³ There is a lack of coherence in areas including the treatment of excavated soils as waste.^{604,605}

Soil health remains the only unpopulated metric in the Outcome Indicator Framework. However, the methodology has been developed, and monitoring commenced.⁵⁵⁹ While a final baseline indicator will be available in 2029, future data, and the ability to monitor improvements to soil health, will be dependent on government's long-term commitment to the Natural Capital and Ecosystem Assessment programme.⁵⁵⁹

Measures aimed at improving soil health are being implemented through agri-environment schemes and others.⁵⁵⁵ Although the overall impact on soil health remains uncertain. The National Audit Office finds that for several agri-environment objectives, including sustainable soil management, there is a significant gap between the current position and the interim target indicating that rapid progress will need to be made.⁶⁰⁶ It notes that SFI was only fully launched in 2023 and Landscape Recovery schemes are still in the project development stage and that a number of Defra's objectives, including those for sustainable soil management have interim targets with delivery dates not far into the future (2028 and 2030). While Farming Rules for Water also contains a legal requirement for soil sampling, it does not include assessing soil organic matter, a key component of healthy soils.⁶⁰⁸

The National Audit Office also find that while soil management plans, integrated pest management and assessing hedgerow condition accounted for 44% of the SFI 2023 actions, these are not dependent on resulting actions. Defra will monitor the impact of plans on the uptake of further actions but does not monitor their quality or implementation.⁶⁰⁶ A further lack of systems-based understanding, outcome measurement and opportunities for long-term planning further limits successful delivery of nature recovery.⁶⁰⁹

Applying sewage sludge to agricultural land has historically been considered to align with circular economy goals.⁶⁰³ The Environment Agency has a statutory role to ensure that sludge is managed properly and used or disposed of in a compliant way.⁶¹⁰ In 2022, 94% (approximately 766,000 tonnes) of sludge produced by water companies was reused for soil and agriculture.⁶¹¹ However, concerns around microplastics, per- and polyfluoroalkyl substances (PFAS) and other contaminants have been raised.^{417,612,613} Defra has undertaken an option appraisal for intentionally added microplastics, and the Environment Agency has concluded that change is needed and proposed to bring the regime into the Environmental Permitting (England and Wales) Regulations.^{614,425}

Climate change presents risks to agricultural soils, including soil health, flooding, and pests. The Agriculture and Horticulture Development Board considers that farmers need support and long-term risk monitoring to adapt effectively to climate change.⁶¹⁵

The Climate Change Committee reports funding uncertainty for tree planting and peatland restoration. It finds that while the Land Use Framework for England could provide an effective basis for policy that optimises delivery of objectives for food security and nature, it remains unclear how it will drive change on the ground.¹²⁶

Deposition of atmospheric ammonia presents a significant pressure on peatlands.⁶¹⁶ There has been a recent improvement, but 81% of England was exposed to damaging levels between 2020 and 2022, and recent trends for ammonia emissions have shown no statistically significant reduction.⁶¹⁷ There are regulatory gaps, the pace of actions remains slow and more will need to be done to ensure the UK is on a pathway to meet the 2030

Emissions Reduction Commitment for ammonia, particularly given potential increased emissions driven by climate change (see [Chapter 3](#)).

The Agricultural Transition Plan and Climate Peatland Grant Scheme include commitments for peat restoration and the UK Forestry Standard limits establishment of new forests on soil with peat exceeding 50cm in depth.^{618,583} Also, restocking existing forests is subject to an assessment. Voluntary initiatives, such as the UK Peatland Strategy and Peatland Code provide frameworks through which nature-based solutions can be delivered through partnerships and private finance.^{619,620}

In 2022 government announced a ban on horticultural peat sales, with retail sales banned from 2024 and the phasing out in professional horticulture by 2030.⁶²¹ Measures supported by Defra have reduced use. However, 950,000m³ was still extracted for use in the UK in 2022 and the ban is yet to be implemented.^{622,623}

Defra has commissioned the Environment Agency to produce a new State of Contaminated Land Report to understand progress in identifying and remediating contaminated land. Whilst welcome, there is a notable interval since the last report which also did not develop recommendations for improvements to a regime.⁵⁸⁷ This regime is still the only avenue available to ensure the proactive identification and remediation of areas with unacceptable risks of harm to the environment and human health.

The EIP23 aims to keep valuable soil out of landfills. In 2018, 29.5 million tonnes of soil from construction sites was disposed of in landfill in the UK, but only 0.6% was hazardous and not reusable.⁶²⁴ Plans for a Soil Re-Use and Storage Depot Scheme and an updated Code of Practice for the sustainable use of soils on construction sites could cut landfill soil, though progress has been slow.⁶²⁵

Sustainable food system

A sustainable food system offers benefits to food security, nutrition, the environment, society and the economy.⁶²⁶ The Office for National Statistics estimates the annual flow of ecosystem services in the UK to be worth over £37bn in 2022.⁴

The UK Food Security Report identifies risks from climate change, long-term natural capital decline and supply chain resilience and chronic risks to the food system include drought, pathogens, pollution, environmental degradation and declining pollinators and pest-controlling species.^{539,6}

Government's Food Strategy notes that transforming the food system is a long-term project due to its breadth and complexity across many policy areas including farming, fisheries and circular economy. Government has created a Food Strategy Advisory Board, for a period of up to two years from March 2025, to provide insights to inform Defra and ministerial thinking.⁶²⁷ Food Strategy Advisory Board members have highlighted the need for a joined up approach across government, the need for performance indicators to track progress of the strategy and that regional and local approaches should be considered.⁶²⁷

Other measures that address the food system include the 25-year Farming Roadmap, Land Use Framework, the Good Food Cycle, and the Circular Economy Strategy (see [Chapter 6](#)).^{593,159,628,398} These offer opportunities for a more sustainable and resilient food system. However, it is currently unclear how they align as a comprehensive and coherent approach.

Further action is essential to reduce food waste. The Waste and Resources Action Programme finds that to meet UN's Sustainable Development Goal 12.3 to halve food waste by 2030, reductions equivalent to 32% of food waste in the baseline year of 2007 are needed.⁶²⁹ Nearly one quarter of UK produced food is lost or wasted annually, including edible food worth over £21 billion.⁶³⁰ We welcome the introduction of green waste recycling as part of government's consistent municipal collections. However, more action is needed to minimise food waste through consumer behaviours, food waste reporting and food redistribution and to address unavoidable green waste in supply chains.⁶³¹⁻⁶³³

A key part of achieving a sustainable food system is the delivery of nature-friendly farming (see [Chapters 2](#) and [13](#)). Government's commitments and plans regarding nature-friendly farming are positive, but challenges including minimising pesticide use (see [Chapter 5](#)) remain.

Table 7.4. Using resources from nature sustainably – summary assessment of prospects of meeting targets and other commitments

Targets and commitments (EIP23 unless otherwise indicated)	Prospects
Halt and reverse forest loss and land degradation globally by 2030.	Largely off track
All fish stocks are recovered to and maintained at levels that can produce their maximum sustainable yield.	Largely off track
Take the necessary measures to achieve or maintain Good Environmental Status of marine waters within the marine strategy area by 31 December 2020 – specifically the descriptor of Good Environmental Status that all commercially exploited fish and shellfish are within safe biological limits (Marine Strategy Regulations 2010 and Marine Strategy).	Largely off track
Bring at least 40% of England's agricultural soil into sustainable management by 2028 and increase this to 60% by 2030.	Not assessed

7.6. Opportunities for improvement

Government has clear opportunities for improving outcomes on specific resources, and for delivering wider commitments. Sustainable and resilient natural resources are a function of a healthy environment. Ensuring that resources and nature policies are coherent, and recognise the direct link between natural resource abundance and the quality and extent of the habitat in which they grow, is essential.

In our 2023/2024 progress report, we noted that supply chains can be made more sustainable by bringing forward the secondary legislation needed to implement the scheme for due diligence on forest risk commodities, as set out in the EA21.^{530,594} This means ensuring Treasury carries out its review of the adequacy of the UK financial system for the purpose of eliminating the financing of the use of prohibited forest risk commodities under the Financial Services and Markets Act 2023, and using green public procurement to drive change.⁵⁶⁴

Only 3% of major businesses are classified as having strong deforestation commitments, with 34% having no publicly available deforestation commitments.⁶³⁴ Yet environment and sustainability reporting is increasingly seen as important to business.⁶³⁵ There are opportunities to set targets for sustainable consumption, expand environmental risk

assessment and mitigation in supply chains, and improve the environmental sustainability of resource extraction.⁶³⁶⁻⁶³⁸ Opportunities to incentivise greater sustainable business practices across supply-chains, and the increased adoption of due diligence processes and corporate environmental sustainability reporting are also important.⁶³⁴

Although progress with forestry and sustainable timber supplies is slow, there is opportunity to develop a more coherent and comprehensive approach, one that delivers sustainable resources, biodiversity benefits and a range of other ecosystem services.⁶³⁹

Diversification of tree species for timber production and mixed habitat conifer plantations designed to increase timber supplies and biodiversity offer opportunity to support nature recovery, net zero and economic growth.^{640,641} Speeding up efforts to reverse the decline in the proportion of woodland in sustainable management, implementation of deer management and uptake of forestry offer further opportunities to increase timber supplies, shorten supply chains and support adaptation to climate change, including resilience to wind and storms.^{542,576}

Publication and implementation of the remaining FMPs while ensuring that stocks are exploited to Maximum Sustainable Yield or below, with Total Allowable Catches that are set to scientific advice can support delivery of government objectives for commercial fish and shellfish.^{578,61}

Government can also improve the coherence and credibility of its policies and actions. Integrating fisheries management into marine spatial planning through coordinated planning, spatial prioritisation and stakeholder engagement can help to address key challenges.¹⁰¹ The Part Three Programme of Measures should be revised so that it forms the fully evidenced, resourced and time-bound delivery plan needed to achieve GES as soon as possible. In addition, efforts to resolve FMP evidence gaps, and measures to reduce bycatch can further support delivery of sustainable fisheries. Improving data collection is also important, including accelerating the introduction of remote electronic monitoring of fishing vessels.^{52,579,642,643}

Integrated planning could be further enhanced through the adoption of a source-to-sea management approach which recognises the interconnected nature of terrestrial and freshwater policies with the marine environment (see [Figure 6.2](#)). Improved nutrient, land use, and river catchment management in addition to coastal habitat creation would benefit the terrestrial environment and fisheries through improved nursery and spawning grounds, water quality and reduction of contaminants in seafood.

The soil health indicator and England peat map should be consistently updated and used for spatial prioritisation. This and other measures such as the Land Use Framework, Landscape Recovery schemes and Environmental Land Management schemes would provide further synergies and opportunities for the sustainable management of soil.^{126,644} Accelerating uptake of voluntary schemes including the Peatland code would benefit peat restoration and protection, along with additional measures to reduce emissions of ammonia and accelerating the ban on the sale of horticultural peat.^{620,126}

The focus has been on implementing practical measures that may benefit soil health in agricultural soils. However, there is the opportunity to enhance the present approach by making sustainable soil management an entry requirement for farming incentive schemes.

Regarding chemical contaminants in soil, actions to ensure the safe and sustainable use of sludge could reduce the input of contaminants into soil.⁴²⁵ Enabling greater redevelopment of brownfield land, using the new State of Contaminated Land Report to re-energise a regime which is now in its 25th year and supporting innovation such as a contaminated land advisory group, can support regeneration and economic growth.^{589,590,645-647} Such action would also support remediation of contamination that already exists, reducing environmental, social and economic impacts and prevent additional future releases driven by climate change and environmental hazards through rising temperatures and increased flooding and erosion.⁶⁴⁸

Government also has opportunity to act upon Recommendation 13 of the Corry Review and EIP23 commitments by ensuring that remediated soil is not unnecessarily classified as waste and diverted from landfill.²⁰ Further progress can be made on sustainable reuse of excavated soils by building coherence across incentives, circular economy policies and regulatory frameworks, incorporating innovative approaches and collaborative schemes.^{481,649,512,650,651}

Regarding the food system, government has opportunity to apply the EIP six green choice principles in further development of its Food Strategy.⁶⁵² As well as incorporating recommendations for food security, including minimising damage to the seabed and bycatch through good fisheries management and the sustainable management of soils.⁶⁰ Additional measures to support reduction of food waste, include mandatory food waste reporting, mandating application of the UK Food and Drink Pact across a range of organisations, greater application of the food waste hierarchy to government policies and minimising avoidable and unavoidable food supply chain waste.^{630,631}

Box 7.1. Brownfield remediation and sustainable growth

England has a legacy of brownfield land with the potential to contain substances that can pollute the environment and harm human health. Evidence shows that redeveloping such land improves the environment and delivers social, economic and ecological benefits.

However, the full benefits of brownfield remediation are not well understood or reflected in decision making, and as a result, sites can remain derelict for years and opportunities to maximise benefits from land are missed, particularly in deprived areas.

Research undertaken by the Environment Agency, Jacobs and the British Geological Survey explored how a remediation and sustainable growth tool could support decision makers to measure and communicate the wider, natural capital benefits of remediating and redeveloping brownfield sites.

The tool demonstrated the multiple benefits provided to the local environment and communities, and to EIP targets and commitments, including:

- Creating or restoring habitats, river channels and woodlands.
- Providing communities with greater access to green space, reducing exposure to harmful chemicals and blight from derelict or underused sites.
- Supporting a brownfield-first approach to new homes, reducing pressure on greenfield and agricultural land whilst supporting economic growth.
- Increasing climate resilience through increased green and blue infrastructure.
- Tackling urban diffuse pollution that impacts river quality and providing sustainable urban drainage.
- Improving urban soil health, supporting the safe reuse of soils, reducing landfill and supporting the circular economy.
- Enabling walkable neighbourhoods that reduce air pollution and carbon emissions.

There is opportunity to build upon the research and a strong appetite for understanding and maximising the multi-benefits of brownfield remediation.

Application of the tool by developers, planners, regulators and communities presents local and regional environmental and social benefits, whilst application at a national level would support policy development and government's growth agenda, whilst supporting delivery of a wide range of EIP targets and commitments.

The availability of data on natural resources remains an important gap. A significant number of fish stocks have unknown status, while data on consumption and material flows is limited and a soil health indicator has yet to be published. Demand for natural resources will grow.⁵⁶⁰ This means policy coherence and clear mechanisms for managing competing demands for the use of land and sea are essential to achieving sustainable supply and use.

Addressing existing gaps and developing further indicators to understand the long-term impacts of resource extraction including those in the marine environment, and further development of online data platforms would support greater understanding of impacts and their mitigation.^{528,541}

Recommendations for using resources from nature sustainably

In our 2022/2023 progress report, we made five recommendations relating to policy and legislative development and monitoring and evaluation. Progress to date has been mixed or limited. Therefore, these recommendations still stand. The issues regarding fisheries and soil management are reflected in subsequent recommendations.

In our 2023/2024 progress report we made three recommendations.

Government has deferred a full response to our recommendation to deliver sustainable soil management, such as through an effective soil protection regulatory framework. Progress during the annual reporting period has been limited. Government has stated that it will continue to review and consider all legislative and non-legislative measures that support healthy, functioning and resilient soils across England. Therefore, this recommendation still stands.

Government has accepted our recommendation to increase the cohesiveness and coherence of sustainable soil management practices. It notes new Sustainable Farming Incentive soil actions, the Environment Agency's Agricultural Land and Environment Risk and Opportunity Tool and additional free educational events. Progress during the annual reporting period has been limited. Therefore, this recommendation still stands.

Government has accepted our recommendation to improve the sustainability of supply chains by enhancing and reporting on its approach to green public procurement. It highlights the new National Procurement Policy Statement and the implementation of a mandatory 10% minimum evaluation weighting for Social Value. Progress during the annual reporting period has been limited. Therefore, this recommendation still stands.

This year we focus on government's approach to sustainable fisheries.

Recommendation 1: Government should accelerate action to deliver Good Environmental Status and sustainable fisheries by refining and publishing policies and strategies to provide resilient commercial fish and shellfish resources in the long-term. This requires improving efforts to better align Total Allowable Catches to scientific advice and improving data collection to ensure scientific advice is robust and fully defensible.

Chapter 8:

Mitigating and adapting to climate change



Chapter 8: Mitigating and adapting to climate change



8.1. Summary assessment

To meet its net zero ambitions, the UK must continue to reduce greenhouse gas emissions in all sectors of the economy. Unavoidable climate change impacts are getting worse, making further and faster measures essential if the environment, businesses and people are to adapt.

In 2023 the UK was the first country to halve its emissions since 1990. Significant emission reductions have been realised within the electricity supply and industry sectors. Across adaptation outcomes, which span many pressures on the environment, trends are mixed. The decline in the condition of protected sites is concerning given this is an important indicator of nature's resilience.

Government has positioned the clean power transition at the centre of its net zero plans and Growth Mission. Government must ensure that the push for growth across other sectors is coherent with achieving net zero goals. While progress is being made in scaling up peat restoration and woodland creation rates, these are still below the level needed to achieve government ambitions for net zero.

The third National Adaptation Programme continues to provide limited evidence of adaptation action at the scale needed to prepare for climate risks across most sectors. The main climate risks to the natural environment remain largely unaddressed in environmental policy programmes, including for Environment Act 2021 biodiversity targets, regulations and plans for restoring protected sites. The absence of a coherent strategy for adapting the agricultural sector continues to be a major gap.

Government needs to speed up the scale and pace of its actions. It must develop a more integrated response to climate change mitigation, adaptation and biodiversity loss, if it is to achieve its climate goals, while safeguarding economic growth, and protecting the environment and society.

Table 8.1. Climate mitigation – summary assessment

Past trends	The UK has met its first three Carbon Budgets. There have been significant reductions in emissions from energy supply and in some parts of industry with less in agriculture and transport.	Improving trends dominate
Progress in the reporting period	Progress has improved. The Clean Power 2030 Action Plan, Great British Energy and expansion of the UK Emissions Trading Scheme are important steps along with accelerated roll-out of electric cars, heat pumps and woodland creation. However, the decision to expand major airports could increase emissions.	Mixed progress
Overall prospects of meeting ambitions, targets and commitments	Many climate actions are below the level needed to align with pathways. Government is on track towards Carbon Budget 4 but falls short of meeting Carbon Budgets 5 and 6. The revised Carbon Budget Delivery Plan may improve prospects. For hydrofluorocarbon consumption, the UK is largely on track to meet the target for 2036.	Largely off track
Robustness	The available evidence base is relatively robust and includes annual emissions inventories, relatively detailed delivery plans and annual progress assessments from the Climate Change Committee.	

Table 8.2. Climate adaptation – summary assessment

Past trends	Indicators used in this assessment were mapped to the risk reduction goals of the NAP3. They show that both exposure and vulnerability to climate risks have increased over the last few years. Around half of the relevant indicators show continued deteriorating trends or little to no change.	Trends show a mixed picture
Progress in the reporting period	There have been few policy updates. The NAP3 has not been strengthened so still does not provide targeted actions to address the climate risks and opportunities identified in the latest UK Climate Change Risk Assessment for the natural environment. There is also limited evidence that climate risks and adaptation measures are adequately integrated into nature-related policy or delivery and measurement of some Environment Act targets.	Limited
Overall prospects of meeting ambitions, targets and commitments	The limited evidence that nature-related targets and policy programmes thoughtfully consider long-term climate change risks and integrate adaptation planning means the prospect of achieving a well-adapted natural environment remains off track.	Largely off track
Robustness	This assessment is primarily based on assessments from the Climate Change Committee, publicly available information and expert judgement. Adaptation is difficult to measure directly. The risk reduction goals and indicators used provide only proxy measures to indicate whether climate risks are being managed. There is also a lack of long-term, consistent datasets covering adaptation outcomes, and significant data gaps, with limited research available into the effectiveness of policy for improving the resilience of the natural environment.	

8.2. Context and commitments

The UK continues to have a strong statutory framework underpinning the policy landscape for mitigating and adapting to climate change along with relatively robust international governance frameworks.

On mitigation, the Climate Change Act 2008 sets out a clear, ambitious and binding long-term target to reach net zero greenhouse gas (GHG) emissions by 2050, relative to a 1990 baseline.⁶⁵³ The UK has also committed, under the Paris Agreement on climate change, to a nationally determined contribution (NDC) to reduce GHG emissions by at least 68% by 2030 compared to 1990 levels.⁶⁵⁴ At COP29, another NDC was announced of 81% by 2035 compared to 1990 levels.⁶⁵⁵

The Climate Change Act 2008 also requires government to set carbon budgets, establishing caps on emissions over five-year periods that act as stepping stones to 2050. The latest and most forward-looking budget (CB6) covers the period 2023-2037 and the Climate Change Committee recently published advice to inform the seventh budget (2038 to 2042).⁴¹⁹

Relatively detailed delivery plans are in place for mitigation. In October 2025, following a legal challenge, government published its revised Carbon Budget and Growth Delivery Plan (CBGDP). It outlines the policies needed to meet the three carbon budgets that have been set up to 2037 (CB4, CB5 and CB6).

There are also a wide range of sector-based commitments and subsidiary plans that cover, among other things, deployment of renewable electricity, low-emission vehicles, fuel-mix

quotas and low-carbon heating. The Clean Power 2030 Action Plan recently introduced a new composite clean power target. It sets two aims for the power sector by 2030: clean sources to produce at least as much power as Great Britain consumes in total, and that clean sources produce at least 95% of Great Britain's generation.^{102,656}

For hydrofluorocarbons (HFCs) – a potent type of greenhouse gas used in a range of applications such as refrigeration, air conditioning and aerosols – the Kigali amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer requires phasing down of production and consumption by 85% between 2019 and 2036.⁶⁵⁷

On adaptation, there have been no recent policy changes. The UK is committed to the adaptation goals in the Paris Agreement and the Kunming-Montreal Global Biodiversity Framework Target 8.⁶⁵⁸ These are to minimise the impacts of climate change on biodiversity and build resilience. However, there are no statutory targets for adaptation, goals are often not measurable, and the international legal framework is less prescriptive and binding than for climate mitigation. There is also a wider range of desired outcomes, spanning the natural environment, infrastructure, health, communities and the built environment, business and industry.¹⁴⁶

The Climate Change Act 2008 drives action by requiring publication of a Climate Change Risk Assessment (CCRA) every five years. These CCRAAs inform the UK government's National Adaptation Programme (NAP).¹⁴⁶ NAP3 was published in July 2023. It sets out the government's goals and plans for adaptation for the next five years based on 61 risks and opportunities identified in the third CCRA.⁶⁵⁹ In April 2025, the CCC published their biennial report on progress in adapting to climate change, building on its independent assessment of NAP3.^{660,145}

For the natural environment, NAP3 focuses on the delivery of large-scale habitat creation, restoration and management. Many of the actions set out in NAP3 are already part of existing strategies and targets for nature recovery.

8.3. Key environmental trends

Climate mitigation

Emissions have decreased significantly since records began. From 2000 to 2024 there has been a 45.7% reduction in emissions (including aviation) from 761.2 MtCO₂e to 413.6 MtCO₂e ([Figure 8.1](#)). Since 2019, emissions have fallen by 15.7% with a 2.6% decrease from 2023 to 2024.

Greenhouse gas emissions have fallen across most parts of the economy, although at very different rates. The greatest reductions have been in the electricity supply and industry sectors. Other sectors have performed less well. Aviation is currently one of the six highest-emitting sectors in the UK economy, and in 2024 emissions increased by 9%, offsetting recent progress.¹²⁶

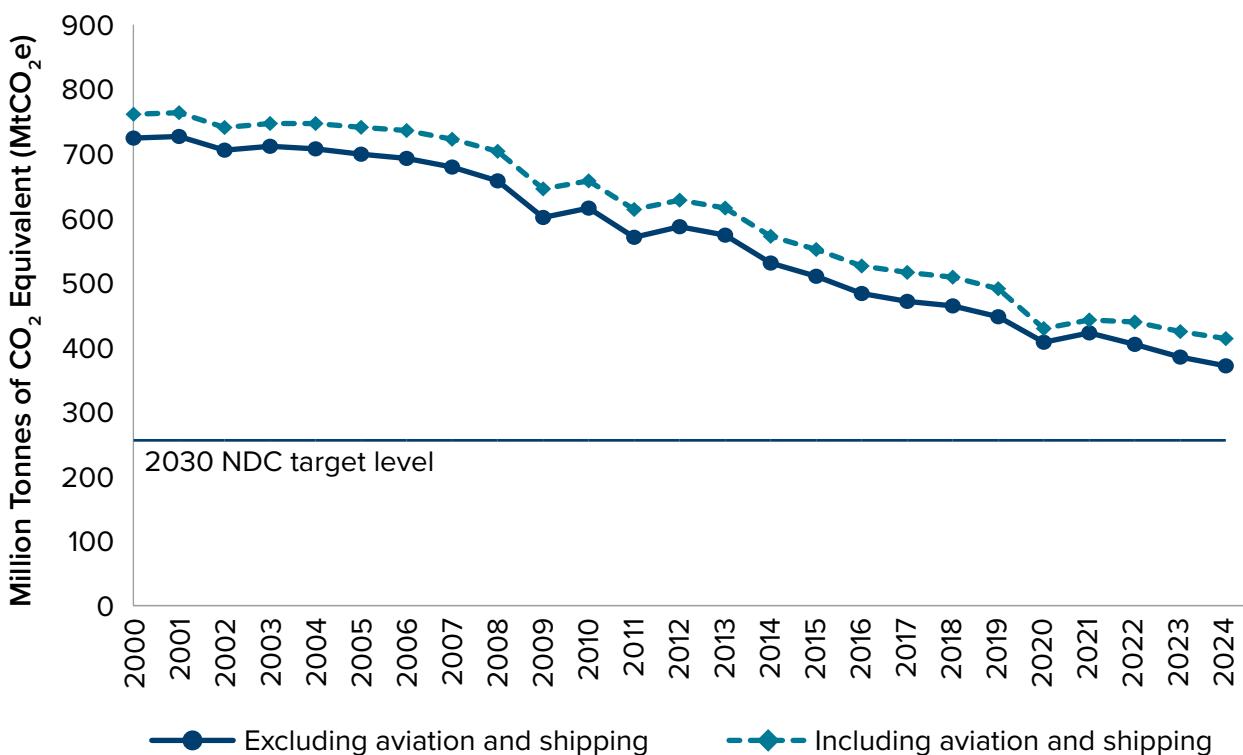


Figure 8.1. UK total GHG emissions, including aviation and shipping, and excluding aviation and shipping, in million tonnes of CO₂ equivalent (MtCO₂e), from 2000 to 2024.⁶⁶¹ The target level line represents the Nationally Determined Contribution (NDC) to reduce GHG emissions by at least 68% by 2030, compared to 1990 levels.

Currently there are no available indicators to measure HFC consumption. Therefore, F-gas emissions are assessed to determine progress in phasing down of HFCs. From 2017 to 2022, F-gas emissions decreased by 31.4% and are now lower (6.424 MtCO₂e) than they were in 2000 (7.987 MtCO₂e).

From 2017 to 2022, England's overall consumption-based GHG emissions have remained stable (Figure 8.2). However, trends across different sources have varied, with emissions attributed to imports offsetting progress in reducing domestic emissions. Emissions from domestic households and production have decreased, by 13.6% and 8.2% respectively, while import related emissions have risen by 8.0%.

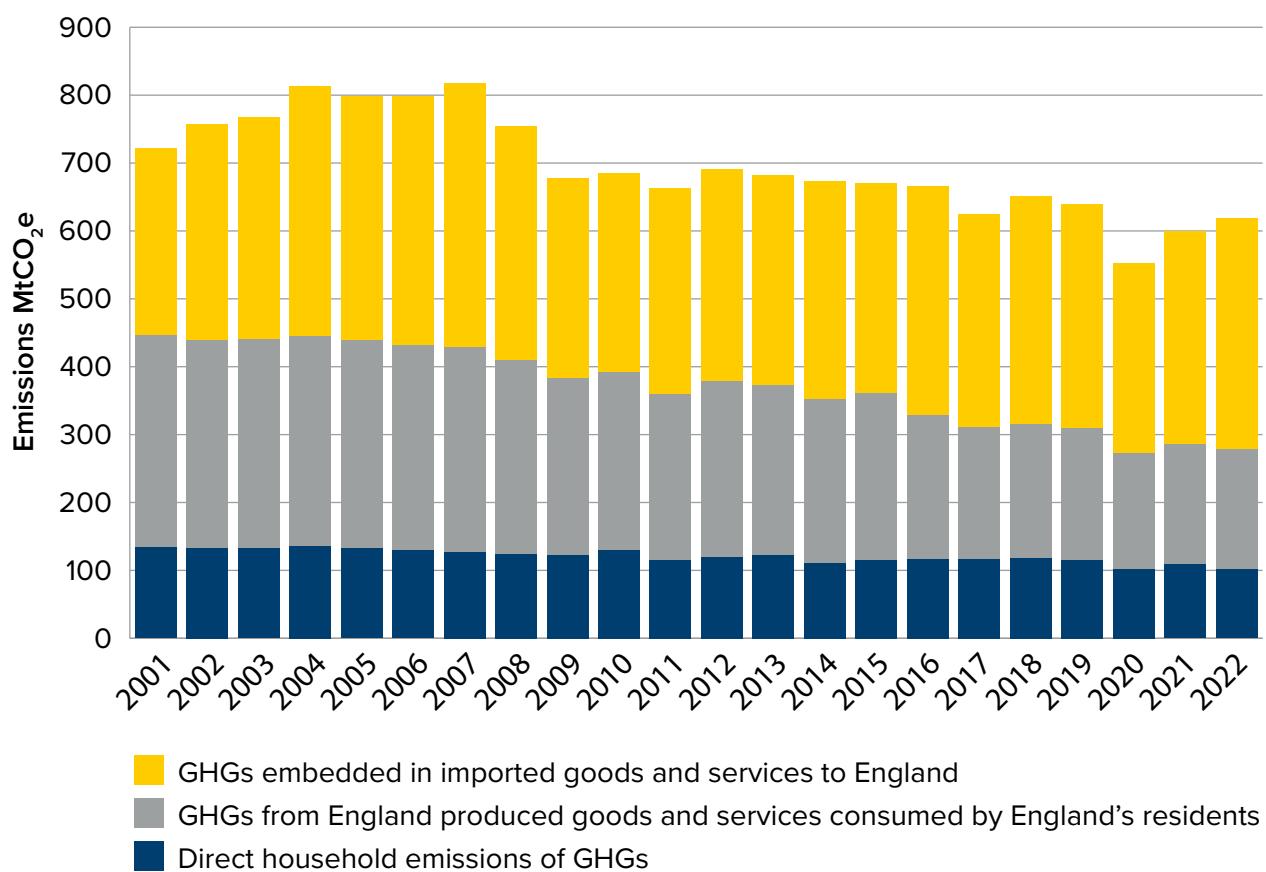


Figure 8.2. Consumption-based GHG emissions in England, from 2001 to 2022.^{662, 663}

A summary of the key trends we assessed is provided in [Table 8.3](#).

Table 8.3. Mitigating and adapting to climate change – summary assessment of key trends

Indicator	Indicator trend	Trend time period
UK GHG emissions	⬇️	2019–2024
Consumption-based GHG emissions in England	➡️	2017–2022
Emissions of fluorinated gases	⬇️	2017–2022

Climate adaptation

Climate impacts are context specific and span many policy areas. They also vary geographically. In the absence of a widely agreed adaptation monitoring and evaluation framework, we have used proxy indicators to assess how climate resilience has changed over time.

Relevant indicators have been mapped against NAP3 reduction goals and associated CCRA risks and opportunities across all Environmental Improvement Plan 2023 (EIP23) goal areas. These monitor a range of environmental pressures and outcomes that are influenced by climate change and relevant to climate adaptation. This approach has limitations, as these outcomes are also influenced by factors other than climate change (see Methodological Statement).

The overall picture is similar to last year with around half of the relevant indicators in Chapters 2 to 11 showing a continued deterioration or little to no change. However, this is partly due to more recent data not being available for seven of the 17 indicators used.

There are some concerning trends. These include a continuing decline in the condition of protected sites (see [Chapter 2](#)). Habitat condition is an important proxy indicator for nature's resilience. This is because healthy ecosystems act as natural buffers against climate impacts like floods and droughts, and better connected habitats are generally more resilient. It is vitally important to safeguard protected sites. They support improved species abundance, rare habitats, and significant carbon sinks (71% of the UK's blanket bog peatland is designated as a Site of Special Scientific Interest).^{664,665} Other adverse trends include the rise in number of invasive non-native species becoming established (see [Chapter 10](#)). The share of woodland that is sustainably managed has continued to decline with implications for long-term resilience and adaptation to climate change, including to increased winds and storms (see [Chapter 9](#)).⁵⁴²

The CCC's 2025 report on progress in adapting to climate change found that across the 46 adaptation outcomes assessed, there was limited progress for 18 and insufficient progress for 12. Good delivery was not demonstrated for any outcome.¹⁴⁵ The outcome indicators covered five broad areas; land, nature, and food; infrastructure; built environment and communities; health and wellbeing; and economy. For nature related adaptation outcomes, the CCC found insufficient progress across terrestrial and freshwater habitats and mixed progress for marine and coastal habitats.¹⁴⁵ This is in line with their previous 2023 assessment.⁶⁶⁶

8.4. Progress towards ambitions, targets and commitments

Climate mitigation

There is still strong ambition and focus on decarbonising the power sector. Government has made 'Make Britain a Clean Energy Superpower' one of its top missions, and in late 2024 the Department for Energy Security and Net Zero published its Clean Power 2030 Action Plan.^{667,102} This sets out a pathway to achieve clean power addressing electricity markets, flexibility capacity, supply chain and workforce needs and reforms to planning (set out in the Planning and Infrastructure Bill). The Great British Energy Act 2025 was also enacted, formally establishing the publicly owned GB Energy.⁶⁶⁸ Furthermore, GB Energy announced its partnership with the Crown Estate to accelerate clean power investment.⁶⁶⁹

Electrification and low-carbon electricity supply will play a critical role in meeting net zero, making up 60% of emission reductions in the CCCs pathway by 2040.⁴¹⁹ Scaling up offshore wind will also play an important part. Government has an ambitious aim to increase capacity to 43-50 GW by 2030.¹⁰² According to the CCC the prospect of achieving this target is on track but will require at least tripling the average annual installation rate since 2020.^{126,102} Government is however currently off track towards meeting ambitious pathways for solar roll-out.^{126,670} Project lead times remain long, so recent planning reforms will be an important step in speeding up development rates.¹²⁶

There are significant trade-offs for nature from developing energy infrastructure. To mitigate harm to marine habitats, and the Offshore Wind Environmental Improvement Package delivered through the Energy Act 2023, as well as initiatives like Marine Net Gain, will be important policies (see [Chapter 2](#)).¹³⁹ For terrestrial habitats, the Planning and Infrastructure Bill introduces a more ‘strategic mitigation’ approach (see [Chapter 13](#)).²³

There has been positive progress with electrification of transport and buildings with the number of electric cars and rates of heat pump uptake increasing. Electric vehicle growth is supported by the Zero Emission Vehicle Mandate, and the newly introduced Electric Car Grant.^{231,671} For heat pumps, government has removed planning barriers and implemented the Clean Heat Market Mechanism.⁶⁷² However, progress needs to speed up to meet ambitious heat pump targets. The CCC identified this is a key area where government’s current plans are not sufficient.¹²⁶

The UK Emissions Trading Scheme (UK ETS) is a key policy for driving emission reductions for energy intensive industries. In the last year, government consulted and subsequently announced that the maritime sector will be formally integrated into the UK ETS in 2026. The waste sector will follow from 2028.^{126,518} These are major milestones in the development of the UK ETS scheme and will support wider environmental commitments, including the government’s Environment Act 2021 (EA21) residual waste target (see [Chapter 6](#)). Government has stated its intention to link the UK ETS with the EU ETS, to create greater market efficiency and alignment with broader European climate goals.⁶⁷³ To help tackle carbon leakage, and address consumption-based emissions attributed to imports, the government still plans to introduce the UK Carbon Border Adjustment Mechanism in January 2027. Guidance was published earlier this year, including on the sectors initially in scope, and how the UK Carbon Border Adjustment Mechanism will interact coherently with UK ETS to ensure imported products are subject to a carbon price comparable to that incurred by domestic production.⁶⁷⁴

Aviation is one of the few sectors where emissions are rising.¹²⁶ Recent government plans to expand major airports could have negative implications for carbon emissions and air quality.⁶⁷⁵⁻⁶⁷⁷ Analysis by Carbon Brief estimates the expansion could lead to an additional 100 million passengers, equivalent to a 34% increase in UK airport traffic compared to 2018 levels.⁶⁷⁸ The Jet Zero strategy will be key in decoupling emissions from the growth in flights. It acknowledges decarbonising aviation is a challenge and outlines a range of potential solutions.⁶⁷⁹ They include mandating sustainable aviation fuel contributions (SAF), developing aircraft efficiency improvements and novel technologies (e.g. hydrogen), and improving the operational efficiency of the aviation system. The strategy also highlights the important role of carbon markets and greenhouse gas removals in offsetting aviation emissions (see [Chapter 12](#)).

These plans appear ambitious. The share of SAF must increase substantially from 2.1% in 2024 to 10% by 2030 as required by the UK SAF Mandate.¹²⁶ We agree with the CCC, that the aviation industry should adopt the full cost of decarbonising aviation, and that government should also look at additional demand management measures if aviation sector emissions become incompatible with net zero pathways, as well as ensuring compliance with air quality standards (see [Chapter 3](#)).

Action on land use, which includes deployment of nature-based solutions, will need to speed up to meet net zero pathways. A key development this year has been the consultation on the long awaited Land Use Framework.⁶⁸⁰ This is viewed by many stakeholders as a key mechanism for managing land use and enabling a more strategic spatial approach (see [Chapter 13](#)). We broadly welcomed the proposed framework in our response but its implementation will be key to its success.³⁴⁵

Tree planting rates are assessed by the CCC as needing to double by 2030 to provide the necessary carbon sink by 2040, accounting for lags in sequestration and the mix of tree species planted.^{419,681} Despite UK woodland creation being at the highest rate for over three decades, with rates in 2023/24 59% greater compared to the year before, the CCC assesses new woodland creation is still slightly off track to achieve government's ambitions (data is compiled from UK and devolved administration government pledges with each working to different timeframes and milestones).¹²⁶ For the EA21 long-term woodland creation target, we assess recent progress to be good (see [Chapter 2](#)).

In late 2024, a Tree Planting Taskforce, chaired by the forestry ministers from the four UK nations, was established to speed up delivery and improve collaboration.⁸² The Nature for Climate fund, a primary source of public funding for woodland creation and peatland restoration, was also extended by one year, with £400 million allocated across 2024/25 to 2025/26.⁶⁸² However, longer-term funding is still highly uncertain, hindering participation. Woodland creation and peatland restoration schemes are expected to be integrated into wider Environmental Land Management (ELM) schemes and government is yet to decide on whether to incorporate nature-based greenhouse gas removals into the UK ETS.⁶⁸³ However we agree with the need to consider the balance of risks and opportunities carefully, including on permanence, environmental integrity, and stacking of benefits (see [Chapter 12](#)).

For peatlands, the CCC finds the proportion in natural or rewetted conditions must double from 26% in 2023 to 55% by 2040.⁴¹⁹ The rate of restoration in the UK increased by 47% from around 6,000 hectares to 18,500 hectares in 2023/24.¹²⁶ We also welcome the recently announced ban on burning heather and grass on deep peat, removing an important pressure on peatlands (See Box 8.1).⁶⁸⁴ In addition, Natural England's recent report clarifies best practices for peatland recovery, burning management, and defines favourable conservation status.⁶⁸⁵ Although progress is promising, the CCC report that the scale of peatland restoration is slightly off track and still below government's ambition.¹²⁶ The previous governments commitment to ban the sale of domestic horticultural peat in 2024 was also delayed.⁶⁸⁶

Box 8.1. The importance of peatlands

Peatlands are carbon-rich wetlands which cover 12% of UK land area. They include blanket bog (extensive areas of peat found largely in uplands), raised bog (localised domes of peat in lowland areas) and the fens.⁶⁸⁷ Forming since the last Ice Age, they now store vast quantities of carbon and in the UK they are estimated to store 3.2 billion tonnes CO₂e.^{688, 687} When in good condition, they also provide wider co-benefits, including supporting climate adaptation efforts (flood regulation, temperature buffering), alongside biodiversity, air quality, and recreation.

Around 80% of England's peatlands are severely degraded. This is due to multiple environmental pressures with compounding effects, including drainage and disturbance from land use (e.g. agriculture, forestry), climate change, and deposition of atmospheric pollutants.⁶⁸⁹ Like many other peatlands around the world, their poor condition has resulted in them becoming a net source of emissions annually, rather than a net sink.

Peatlands now represent the largest source of land-use based emissions. Based on recently improved mapping of peatland extent and condition, it is estimated that around 2% of England's total emissions are attributable to degraded peat soils, a significant proportion of which is driven by the use of peat for horticulture.⁶⁴⁴ In the Greenhouse Gas Inventories for England, this equated to 5.98 MtCO₂e in 2022. This means emissions from degraded peatlands offset around 70% of the carbon sequestered by all England's forests in that year (-8.59 MtCO₂e).

The way indicators are currently reported by sector sometimes masks this issue. The Outcome Indicator Framework, indicator 'Emissions of greenhouse gases from natural resources, waste and fluorinated gases', for example, does not disaggregate emissions from peatlands within Land Use, Land Use Change and Forestry.⁶⁹⁰ Furthermore, only publicly funded peatland restoration projects are being tracked. These are predominantly those funded from the Nature for Climate Fund, which does not provide a full picture of restoration and maintenance activity.⁶⁹¹

Based on the latest data for 2023, there was a small reduction in emissions from agriculture but this was offset by a slightly larger increase in land-based emissions.¹²⁶ Additional Defra-supported funding rounds for on-farm technology and innovation continue, though methane-suppressing feed implementation details are still pending.^{266, 126}

A summary assessment of the targets and commitments we assessed progress towards is provided in [Table 8.4](#).

Table 8.4. Mitigating climate change – summary assessment of progress over the annual reporting period towards meeting targets and other commitments

Targets and commitments (EIP23 unless otherwise indicated)	Progress
Net zero emissions by 2050, including Carbon Budgets 4, 5 and 6, and the UK's 2030 and 2035 NDC (Climate Change Act 2008)	Good
Reducing HFC consumption by 85% between 2019 and 2036 (Kigali Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer)	Good

Climate adaptation

There have been few major policy updates for improving climate resilience and adaptation in the natural environment since our 2023/2024 progress assessment. The NAP3, which sets out the key actions for 2023 to 2028 was a step forward on previous NAPs. However, it does not provide a comprehensive and credible plan for addressing climate risks. There have not been any updates to the NAP3 following the CCC publishing its independent assessment in 2024.⁶⁶⁰

For the natural environment, the NAP3 focuses on the delivery of large-scale habitat creation, restoration and management, including through relevant EA21 targets, agri-environment schemes, restoring the condition of protected sites, and actions to reduce the introduction and establishment of invasive non-native species.

Many of our concerns remain the same as before with generally poor adaptation planning across government's nature programmes. This includes for EA21 biodiversity targets, which given their statutory status and long-term duration, should be a priority for thorough climate risk planning. Our review of the evidence used to set the EA21 species abundance targets and extinction risk target found that the scenario modelling did not robustly account for changing climate impacts, such as the increasing threat from invasive non-native species.⁶⁹²

In addition, the Conservation of Habitats and Species Regulations 2017 and plans for restoring protected sites and peatland do not appear adaptive to future climate changes. Just two examples are changing climatic conditions (CCRA3 risk N1) and moving species ranges (CCRA3 risk N3). This is despite some evidence suggesting between 80% and 90% of the biodiversity features in freshwater, wetland, uplands and coastal habitats will be at medium or high risk over the next 30 years.⁶⁹³

The lack of a coherent strategy for adapting the agricultural sector remains a major policy gap, despite the CCC consistently identifying this as a priority.^{145,666,694} However, there has been positive progress rolling out programmes related to delivery of large-scale habitat restoration and protection, supporting resilience. Areas of farmland covered by ELM schemes has increased, with around two thirds of land estimated to be in a scheme, although the temporary pause of the Sustainable Farming Incentive in 2025 will have affected farmer confidence (see [Chapters 2](#) and [12](#)). Although not targeted in the scheme, new analysis commissioned by the CCC based on available data shows that ELM has increased the uptake of actions that support climate adaptation such as riparian buffer strips, natural flood management and soil health measures. Conversely, there has been a reduction in uptake of other important measures, such as wetland and coastal habitat restoration.⁶⁹⁵

The government consulted on a Land Use Framework in early 2025 with publication due in early 2026.⁶⁸⁰ If implemented effectively, it would embed longer-term planning in land use policy and therefore support greater uptake of climate adaptation measures. The Land Use Framework provides opportunity to coordinate land use allocations strategically, supporting nature-based solutions that contribute to climate adaptation and mitigation. It is also potentially important for embedding climate risk mapping across environmental programmes, and focusing adaptation delivery, including connecting habitats, and supporting habitats most vulnerable to climate threats, such as those dependent on, or defined by, surface water availability.⁶⁹⁶

In the marine environment, government published the UK Marine Strategy Part Three in January 2025.⁶⁷ This details the programme of policy measures to achieve or maintain Good Environmental Status of UK marine waters. Although it acknowledges climate change as an important pressure, measures included do not specifically target adaptation.¹⁴⁵

Positive progress is being made in integrating adaptation planning in local delivery frameworks. As we reported last year, Protected Landscapes authorities will need to produce a Climate Adaptation Management Plan, embedded or linked with their management plans by 2028. Defra and the Met Office recently launched the Local Authority Climate Service pilot. This provides local authorities with tools, resources and data that help local authorities understand the impacts of climate change in their area, to support decision-making and climate adaptation planning.⁶⁹⁷

We note the increased focus on adaptation research. Government has recently commissioned the CCC to advise on measurable and timebound objectives.⁶⁹⁸ This will help address the longstanding absence of a widely agreed monitoring framework. In April, government also presented a new research framework that is intended to provide direction and coordination for research and innovation.⁶⁹⁹ Also, UK Research and Innovation has recently co-funded and launched the Maximising UK Adaptation to Climate Change hub programme.⁷⁰⁰ This is intended to build capacity, knowledge and skills that will offer practical and scalable solutions, and integrate climate adaptation strategies at both local and national scales.

Strategic adaptation action research and the Maximising UK Adaptation to Climate Change hub are critically important in identifying evidence-based adaptation solutions for the natural environment, and guiding nature protection and restoration efforts. The hub could also support work by the CCC and others to develop defined outcomes and targets for adaptation in the natural environment. However, further research and effective integration of that knowledge into adaptation policy is needed given the mounting impacts of climate change.

8.5. Prospects of meeting ambitions, targets and commitments

Climate mitigation

The prospects of government achieving its commitment to climate mitigation is largely off track. A summary assessment of the targets and commitments we assessed is provided in [Table 8.5](#), with further detail provided below.

The updated Carbon Budget and Growth Delivery Plan was published in October 2025 following a court ruling in 2024 that the process by which it was adopted was unlawful.^{701,656} This plan sets out how Government intends to meet statutory Carbon Budgets. We welcome that the plan acknowledges how climate and nature crises are fundamentally interlinked, and that connections are drawn between climate mitigation and nature-based solutions, such as tree planting, peatland restoration and nature-friendly farming.

However, government appears to have missed an opportunity to develop a joined up, fully integrated plan that coordinates delivery between climate and key environmental plans and strategies, such as the EIP and forthcoming Land Use Framework.

The CBDP does not clearly set out the synergies and trade-offs between climate mitigation and wider environmental targets. Additionally, references to NAP3 are minimal. We will consider the CBDP in more detail in our 2025/2026 progress report.

Based on the policies and programmes evaluated by the CCC, the UK appears likely to meet the next carbon budget (CB4, covering 2023 to 2027), but is off track to meet CB5 (2028 to 2032) and CB6 (2033 to 2037).¹²⁶ The CCC also assess that 39% of policies and plans relevant to meeting the 2030 NDC have significant risks, or insufficient or unquantified plans.¹²⁶

Government has made significant strides recently in the transition to clean power by 2030, underpinned by an ambitious and comprehensive Clean Power 2030 Action Plan. However, more action will be needed across other parts of the economy. The CCC suggests that over 80% of required emissions savings between now and projected net zero 2050 need to come from sectors other than energy supply.¹²⁶ The greatest share of reductions from now to 2030 will need to come from the transport, buildings, agriculture, and aviation sectors.

Government's push for growth presents risks and opportunities. It can and should be synergistic with its net zero goals. Evidence shows that investing in net zero has considerable economic benefits, alongside health and environmental benefits.^{702 703} Approximately 2% additional growth in Gross Domestic Product is estimated from the net zero transition, through new jobs, increased economic activity, and reduced fossil fuel imports and cost savings.⁷⁰²

There is a risk that, with economic growth as the overriding objective, decisions are made that have unintended consequences and undermine net zero progress. This could lead to greater economic and reputational costs. For example, the decision to expand UK airports will increase the challenge and cost of offsetting emissions from rising passenger numbers.

Government has demonstrated that a rapid increase and investment in tree planting and peatland restoration is possible. However, there is uncertainty that this will continue. For the EA21 long-term woodland creation target, we assess that prospects of meeting the target are partially on track (see [Chapter 2](#)). The Tree Action Plan⁸⁵ and Peat Action Plan⁷⁰⁴ for England only contained actions up to 2024 and 2025 respectively and there have been no replacement plans. There is further uncertainty on the future of Woodland Carbon Fund and its incorporation into ELM schemes. Other sources of uncertainty include government funding allocations and no decision on whether and how to integrate carbon credits from woodlands into the UK Emissions Trading System.⁷⁰⁵

Progress on reducing HFCs has been consistent since 2015. However, there is concern that the increased push for heat pump installations and growing demand for air conditioning and refrigerant products could temporarily increase F-gas emissions. However, with regulatory action, and a push for investment and developments in new technology, this rise could be avoided.

Table 8.5. Mitigating climate change – summary assessment of prospects of meeting targets and other commitments

Targets and commitments (EIP23 unless otherwise indicated)	Prospects
Net zero emissions by 2050, including Carbon Budgets 4, 5 and 6, and the UK's 2030 and 2035 NDC (Climate Change Act 2008)	Largely off track
Reducing HFC consumption by 85% between 2019 and 2036 (Kigali Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer)	Largely on track

Climate adaptation

Government's vision for adaptation is 'for a country that effectively plans for and is fully adapted to the changing climate, with resilience against each of the identified climate risks'.¹⁴⁶ The last four CCC reports on progress in adapting to climate change (2019, 2021, 2023, 2025), and its independent assessment of NAP3, have all concluded that there is a persistent lack of progress in reducing exposure and vulnerability to climate change risks and that adaptation action is not keeping pace with increasing risk levels.^{145,660,666,694}

With no substantive policy updates since the NAP3 – and continued limited evidence that nature-related targets and policy programmes thoughtfully consider long-term climate change risks and integrate adaptation planning – the prospects of a well-adapted natural environment remain poor.

At the same time, the effects of climate change are accelerating. The latest State of the UK Climate assessment highlights how baselines are shifting with extreme weather becoming the norm. The last three years have been in the UK's top-five warmest on record, and winter rainfall (October to March) has been 6% wetter for the most recent decade from 2015 to 2024 compared to 1991 to 2020.¹⁰

According to the UN, the world is on course for a temperature increase of 2.6-3.1°C, far exceeding the 1.5°C goal set in the 2015 Paris Agreement.⁷⁰⁶ New research also shows that many climate models fail to reproduce the observed trends (2001 to 2023) suggesting that future warming could be more than most current models predict.⁷⁰⁷

This underlines the need for a step change in ambition when it comes to addressing the impacts of climate change. Particular attention is needed for the natural environment. Based on a systematic review of the evidence on the state of ecosystems, this is currently degraded, and poorly able to cope with the impact of future change.⁶⁰

8.6. Opportunities for improvement

Many of the opportunities we identified in our 2023/2024 progress report remain relevant to tackling the intertwined goals of mitigating emissions while adapting to unavoidable impacts and halting and reversing biodiversity loss. They include increasing ambition of both mitigation and adaptation plans and embedding climate adaptation across both CBDP and EIP policy programmes, including for EA21 biodiversity targets.

This is made difficult by the fact that different government departments and institutions are responsible for each of these.⁸ With the recent publication of the Land Use Framework, there is a unique opportunity to coordinate development and delivery of multiple land use

policies to maximise synergies. These include the EIP25, Carbon Budget Delivery and Growth Plan, the 25-year farming roadmap and the Food Strategy. These need to ensure nature-based solutions are prioritised spatially to maximise their benefit, while taking account of wider land use priorities – and how future climate change will affect land use (see [Chapter 13](#)).

A longstanding issue with accelerating the roll-out of nature-based solutions is the limited long-term certainty of funding. As woodland creation and peatland restoration schemes are integrated into ELM schemes over the next year – and with the recent spending review setting Defra's budgets for capital investment until 2029-30 – there is an opportunity to provide medium-term certainty and confidence to farmers considering taking part in environmental schemes.⁷⁰⁸ Significant expansion of the more ambitious parts of Countryside Stewardship and Landscape Recovery schemes is needed. They should offer long-term agreements to secure the long-term predictability needed.

Finally, with fracturing political consensus on net zero, it is critical that government is clear on the strategic case for net zero and harnesses public support for actions.⁷⁰⁹⁻⁷¹¹ This is essential to deal with the implications of transition pathways and the implications of inaction. We welcome that public engagement is a key theme of the Environmental Audit Committee's recent call for evidence on the seventh Carbon Budget, and is an issue the Energy Security and Net Zero Committee is focused on.^{712, 713}

Recommendations for mitigating and adapting to climate change

In our 2022/2023 progress report, we made three recommendations relating to policy development and delivery. Progress to date has been mixed or limited. These issues remain relevant. Therefore, these recommendations still stand.

In our 2023/2024 progress report we made one recommendation.

Government has deferred a full response to our recommendation to include a climate risk assessment in each review of the EIP and when considering whether to set, revise or replace any targets. We have not assessed progress regarding this recommendation but will do so after analysing the EIP25. Therefore, this recommendation still stands.

Chapter 9:

Reduced risk of harm from environmental hazards



Chapter 9: Reduced risk of harm from environmental hazards



9.1. Summary assessment

Protecting vulnerable communities and ecosystems from natural hazards is critical with a changing global climate and patterns of land use. Government aims to reduce the risk of harm from natural hazards to people, the environment and the economy. Reducing the risks of flooding and coastal erosion is a Defra priority outcome.

The frequency and intensity of extreme weather events and conditions that increase the risk of natural hazards is escalating, with wildfires, sea levels and extreme heat showing upward trends. New national flood risk data shows 6.3 million properties are at risk of flooding in England. This is projected to rise to 8 million by mid-century.

Progress continues in strengthening protection against flooding and coastal erosion, but efforts must accelerate to keep pace with changing weather patterns and to meet existing commitments. Actions to improve water security and to implement and promote nature-based solutions for flood management are continuing. However, policy development and resource allocation for urban heat and wildfires lags behind.

Prospects for achieving government's aims are partially on track. Recent funding allocations have improved the prospects of fulfilling some of the commitments, particularly with regards to maintaining high-consequence flood and erosion defence assets. However, changing policies and proposed governance reforms introduce uncertainty.

Government can improve outcomes by setting clear long-term goals for flooding and coastal erosion. The revised national standards for Sustainable Drainage Systems are a positive development for the management of sewer and surface water but without supporting legislation being brought into force, progress may stall. Opportunities also exist for addressing evidence gaps and improving policy coherence with regards to heat-related risks and wildfires.

Table 9.1. Reduced risk of harm from environmental hazards – summary assessment

Past trends	Extreme weather events and conditions conducive to increased natural hazards are escalating. Deteriorating trends in wildfires and high temperatures continue.	Deteriorating trends dominate
Progress in the reporting period	Progress has been made in protecting property from flooding and coastal erosion, nature-based solutions and water security. Maintenance of high-consequence flood and erosion defences was mixed with progress on other hazard mitigation limited.	Mixed
Overall prospects of meeting ambitions, targets and commitments	Government has met the interim commitment to better protect 100,000 properties from flooding but is unlikely to meet the 2027 commitment of 336,000. Prospects for meeting the high-consequence asset maintenance and nature-based projects commitments are partially on track.	Partially on track
Robustness	The new National Flood Risk Assessment strengthens the evidence base but short-term trends based on new data sets cannot yet be shown. Gaps remain in evidence on wildfire and heat resilience. The assessment draws on public data, stakeholder input, and expert judgement.	

9.2. Context and commitments

Changing weather and land use patterns are escalating risk from natural hazards, impacting people, plants and wildlife. Effective and sustained policy intervention is needed to mitigate this risk and strengthen resilience. In the Environmental Improvement Plan 2023 (EIP23), government recognises this in its ambition to ‘reduce the risk of harm to people, the environment and the economy from natural hazards including flooding, drought and coastal erosion’.³⁶

In England, extreme weather events are increasing in frequency and severity. They are becoming expected as an integral part of the climate, along with warmer, wetter winters and drier, hotter summers.¹⁰ These climatic shifts, driven by global warming, are recognised as chronic environmental risks that contribute to rising sea levels and elevated temperatures across terrestrial and marine ecosystems. Chronic risks cause long-term challenges of their own, but also exacerbate acute risks, such as storms, flood events, droughts, heatwaves and wildfires.⁶

The 2025 National Risk Register includes 14 natural and environmental hazards. The impacts resulting from these disproportionately affect fragile ecosystems and vulnerable groups including older adults, children, people with low-income and those experiencing poor health.^{6,15} The economic impact in the UK is already significant and is accelerating. Flooding alone costs the UK around £1.3 billion annually.^{714,715}

There are also evolving changes to the policy landscape. Government’s focus on economic growth and housing development, combined with improved understanding of flood risk, water demand forecasts and escalating extreme weather raises the need to consider existing targets and commitments.

Concerns over regulatory effectiveness have also intensified. Both the Independent Water Commission report and the independent review of Defra’s regulatory landscape led by Dan Corry (the Corry Review) call for reform and simplification of environmental governance.^{20,291} The Independent Water Commission report recommends establishing a single integrated water regulator by merging Ofwat with the water-related functions of the Drinking Water Inspectorate, Natural England and the Environment Agency (EA), excluding flooding.²⁹¹ The Corry Review calls for a streamlined regulatory framework to better enable economic growth and nature recovery, emphasising the need to remove barriers to nature-based flood solutions.²⁰

Government has committed to investing in flood and coastal defence projects aimed at protecting 100,000 properties by 2024 and 336,000 properties by 2027.⁷¹⁶ They have also committed to doubling the number of government-funded initiatives that incorporate nature-based solutions to mitigate flooding and coastal erosion by 2027. In the longer term, the government aims to ensure that 98% of major flood and coastal erosion assets are maintained as fit for purpose, with 94% maintained by March 2025.³⁶ In addition, Defra’s Priority Outcomes for 2024–2025 include reducing both the likelihood and impact of flooding and coastal erosion on individuals, businesses, communities, and the natural environment.⁷¹⁷

There are no specific commitments or targets with regards to other natural hazards. However, the EIP23 outlines the intention to reduce the impacts of drought (particularly for water supply), protect against wildfire and take co-ordinated action across sectors to reduce exposure to high temperatures.³⁶

9.3. Key environmental trends

We have assessed trends for the properties at high risk of flooding, maintenance of high-consequence assets and number of wildfires. A summary assessment of the key trends we assessed is provided in [Table 9.2](#).

The Met Office reports that continued upward trends in average temperatures and rainfall are consistent with climate projections. This indicates that future conditions are likely to exceed current and historical norms, which increases the risk of climate-related hazards.^{10,718}

Flooding and coastal erosion

The newly released flood and erosion risk data based on new modelling techniques offer a more comprehensive and unified view of current and future flood risks. The updated data show that approximately 6.3 million properties are at risk from flooding, with projections suggesting this could rise to 8 million by mid-century. The improved data also now show that surface water flooding threatens 4.6 million properties, this is a 43% increase over previous estimates. Coastal erosion risk is also accelerating, with 3,500 properties at risk by 2055, rising to 10,100 by 2105.⁷¹⁹

Since 2018, there has been an overall decrease in the percentage of high-consequence assets meeting the required condition, falling from 96.1% in 2019/2020 to 92.8% in 2024/2025.⁷¹⁹ This 3.4% decline is largely due to the impacts of winter storms and a shortfall in maintenance funding, although the trend was not deemed to be statistically significant.¹⁰ Within the reporting year, high-consequence asset condition showed a slight improvement, increasing from 92.6% in March 2024 to 92.8% by the end of March 2025.⁷²⁰

According to the Met Office, in 2024 the worst weather-related impacts resulted from flooding and storms. This has been typical over recent years and is driven by rainfall patterns and rising sea levels. Sea levels have risen by 19.5 cm since 1901, with the past three years reaching record levels.¹⁰

Property damage from flood events was lower than the previous year. However, the past two years have seen significantly increased damage since 2020 ([Figure 9.1](#)). The UK experienced seven named storms during the annual reporting period.

The EA reports that storms between 2024 and 2025 affected approximately 3,200 homes in England, but impacts would have been far worse without flood risk management assets and the actions of the response teams which protected over 113,800 properties during these events.⁷¹⁹

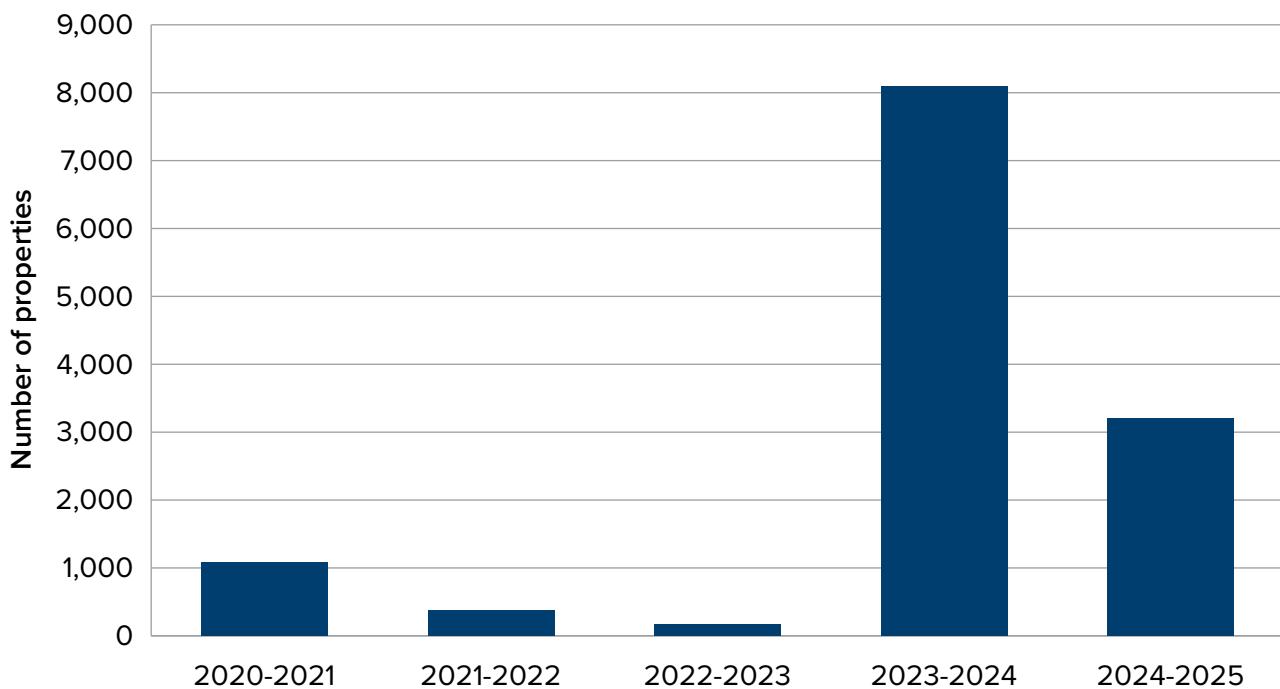


Figure 9.1. Properties flooded in flood events since 2020.⁷¹⁹

High temperatures

Heat events pose serious risks and affect mortality rates for humans and wildlife. In summer 2024, four extreme heat events in England led to 1,311 heat-related deaths, 282 above the expected number based on historical temperature mortality trends.^{721,722}

The National Audit Office's natural capital accounts indicate that primarily due to more hot days, the value of urban heat regulation in the UK rose to £824 million in 2022, nearly four times 2021's £209 million.⁴ In England, natural urban heat regulation assets, such as green spaces, trees, and water bodies, were valued at £21,545 million.⁴

England's climate has had steadily rising average temperatures since the 1980s, with 2024 the fourth warmest since records began. These trends reflect a broader pattern of escalating heatwaves, droughts and conditions favourable for wildfires, some of which have already been surpassed in 2025, which saw the hottest summer ever recorded.¹⁰

As well as affecting humans, extreme heat events also increase wildlife mortality in England, affecting terrestrial, freshwater and marine species. Extreme heat and water scarcity disrupt food chains, alter nesting and breeding patterns, and increase competition from invasive species.^{723,724} Early-season heat also shortens flowering periods, reducing food for pollinators and limiting autumn fruit supplies for birds and small mammals.⁷²⁵

Drought

Droughts vary in length, duration, location, timing and severity. This leads to differing impacts on ecosystems, agriculture, and water supply. Potable water demand is reducing (see [Chapter 4](#)) but shifting climate and rising population projections may worsen the effects of drought and increase the risk of supply failures.⁷²⁶

In southern England, river flows are projected to decrease through to 2080, raising concerns about water scarcity and quality, especially in summer. Trends in the northern parts of the country are not as well defined. Groundwater, which supplies nearly a third of drinking water, faces threats from sea level rise and saltwater intrusion.⁷²⁷ Security of water supply in the short-term is stable, with water companies showing little change in security of supply performance between 2021 and 2023 (see [Chapter 4](#)). However, there are uncertainties around future demand. Projections indicate a likely increased risk to water supply from single-season droughts and a decrease from multi-season droughts, due to warmer and wetter winters and hotter and drier summers.⁷²⁶

Wildfires

Wildfires in England are episodic but conditions conducive to fire are increasingly being driven by climatic shifts and extreme weather. Notably destructive fire seasons occurred in 2022 and 2025.⁷²⁸

The number of wildfires in England indicator included in our assessment ([Table 9.2](#)) has not been updated since 2021, due to a lack of dedicated funding. The European Forest Fire Information System (EFFIS) monitors real-time data on wildfires across Europe that provide short-term trends for the UK. The EFFIS system records and maps fires over a certain threshold, which means that smaller, but potentially ecologically significant fires may be excluded from the database.⁷²⁹ In addition, satellite-based detection can miss fires under dense cloud cover or in areas with limited visibility. This can result in under-reporting of active fires, especially during adverse weather conditions.⁷²⁸

According to data from EFFIS, wildfire incidence has been variable over the past 14 years, with a marked increase in activity during the most recent seven-year period ([Figure 9.2](#)). Between 2018 and 2024, a total of 520 wildfires were recorded, compared to the 90 wildfires documented between 2011 and 2017. Although both the number of fires and the total area burned were relatively low in 2024, the years 2019 and 2022 experienced notably high fire activity. Data for 2025 to date indicate that wildfire occurrences are already exceeding previous record levels.⁷²⁹ By August 2025, the UK had experienced 178 wildfires, covering more than 47,500 hectares, the largest burned area ever recorded for that point in the year.⁷²⁹

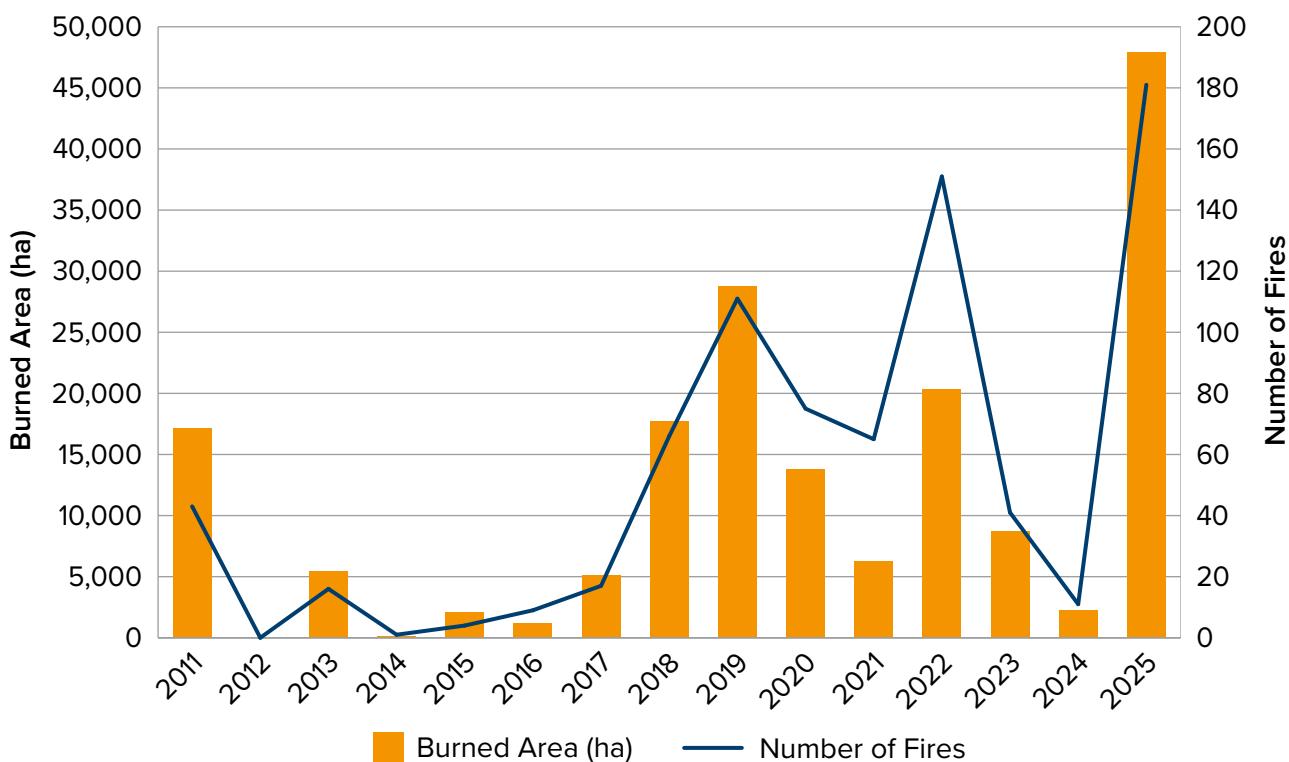


Figure 9.2. Burned area and number of fires in the UK by year.⁷²⁸

England has 1.4 million hectares of peatlands, 80% of which are in a dry and degraded state, making them vulnerable to fire.^{644,730} Across the UK peatland wildfires account for approximately a quarter of land area affected by fire annually and have produced up to 90% of the country's annual fire-related carbon emissions. There are spikes in dry years and low, or even no emissions, in wet years.⁷³¹

Table 9.2. Reduced risk of harm from environmental hazards – summary assessment of key trends

Indicator	Indicator trend	Trend time period
Properties at high risk of flooding	—	N/A
Percentage of flood or coastal risk management assets in high-consequence systems in required condition in England	⬇	2018/2019 – 2024/2025
Number of wildfire incidents	⬆	2015/2016 – 2020-2021

9.4. Progress towards ambitions, targets and commitments

A summary assessment of the commitments we assessed progress towards is provided in [Table 9.3](#), with further detail provided below.

Overall, progress has been mixed. Progress is ongoing in enhancing protection against flooding and coastal erosion, alongside continued efforts to implement and promote nature-based solutions and improve water security. However, efforts to mitigate risks from other natural hazards, such as extreme heat and wildfires, lag in policy development and resources.

The APR 2025 highlights just six actions carried out during the annual reporting period.⁴⁹ All of these were led by Defra and focused exclusively on the flooding and coastal erosion components of the goal area.

Flooding and coastal erosion

The APR 2025 reports that the Flood and Coastal Erosion Risk Management investment programme better protected over 27,000 properties in the annual reporting period, which means a total of almost 116,000 properties having benefited from better protection since April 2021. This meets the interim target of 100,000, although slightly behind the 2024 deadline. In addition, in February 2025, government announced £2.65 billion in funding for 2024 to 2026 to support new flood schemes and maintenance. Around 1,000 schemes are being supported through this funding, aiming to protect 52,000 properties by March 2026.⁷¹⁹

The EA estimates that maintaining 98% of high-consequence assets at optimal condition offers the best value for money.⁷¹⁵ Of the £2.65 billion Plan for Change investment, an additional £108 million has been re-allocated to maintenance from capital expenditure, an area that has faced persistent funding shortfalls in recent years.⁴⁹

In total, during the annual reporting period, £214 million (including £36 million allocated from the capital investment programme) was allocated to maintaining high-consequence assets and by the end of March 2025, 92.8% of flood and coastal defence high-consequence assets were reported to be at or above target condition.^{719,720}

Surface water flooding remains a significant concern, with 4.6 million properties at risk, but national data on adaptation to surface water flooding remains limited. Of the 27,543 properties protected through the Flood and Coastal Risk Management investment programme, discussed above, 1,254 were targeted at surface water flooding across 35 projects ([Figure 9.3](#)).⁷¹⁹

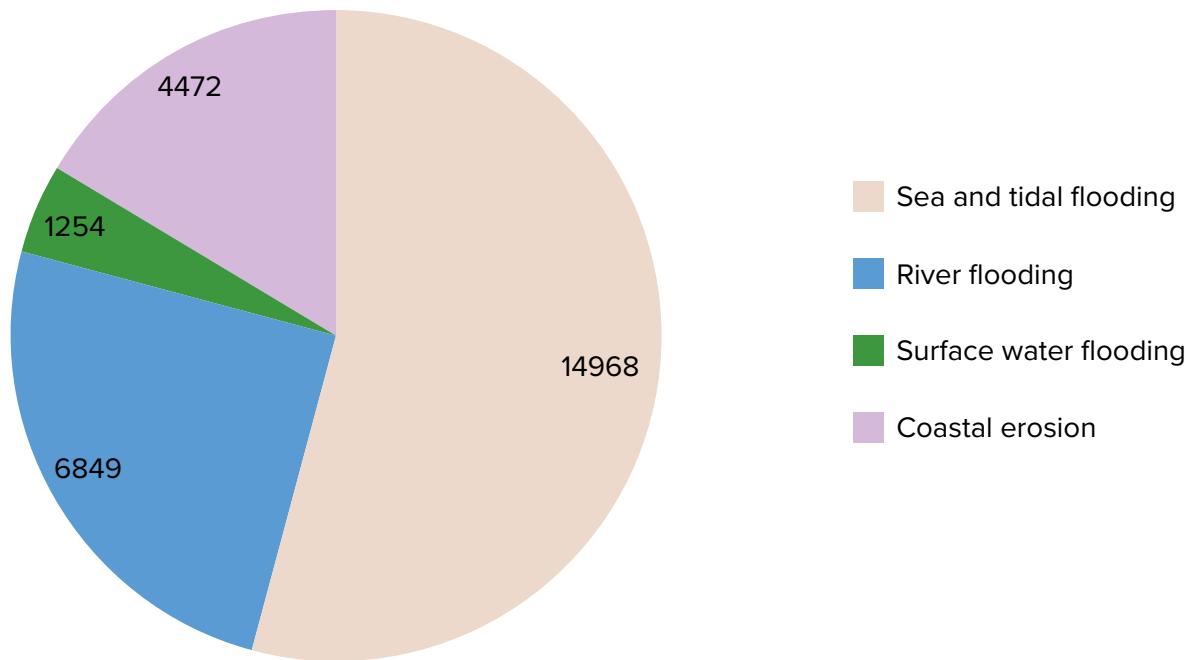


Figure 9.3. Number of properties protected from flooding and coastal erosion.⁷¹⁹

Other progress regarding surface water flooding is highlighted in the APR 2025. Following the commencement of section 79 of the Environment Act 2021 in September 2024, a statutory requirement was introduced in England under section 94A of the Water Industry Act 1991 for sewerage undertakers to prepare, publish and maintain Drainage and Sewerage Management Plans (also called Drainage and Wastewater Management Plans or DWMPs). These aim to guide long-term investment to ensure the resilience of networks and assets against population growth and climate change. This will help reduce sewer and surface water flooding.

Additionally, in March 2025, the Internal Drainage Board Fund, aimed at providing flood resilience benefits to rural communities and agricultural land, was increased by £16 million, raising it to £91 million. Other measures to support rural areas included the launch of the Rural Flood Resilience Partnership in September 2024 to help farmers and rural communities adapt to increasing flood risks.⁷³² Defra also expanded the Farming Recovery Fund to support farmers and other landowners affected by flooding and extreme weather.⁷³³

In January 2025 the EA published an updated National Flood Risk Assessment, integrating climate change modelling for the first time. At the same time, the updated National Coastal Erosion Risk map was released and a number of risk management tools used by the public and planning authorities were updated. These improved datasets are important for developing resilience strategies and informing planning decisions and policymaking.^{734,735}

Coastal authorities use Shoreline Management Plans to manage flood and erosion risks over the short, medium, and long-term, aiming to balance environmental, social, and economic factors. The latest coastal flood risk assessment assumes full resourcing and implementation of these Shoreline Management Plans. Without interventions proposed in these plans, the number of at-risk properties could increase ninefold by 2055. Shoreline Management Plans have been updated following an independent peer review in January 2024, and the EA reports improvements are underway.⁷³⁶ This includes efforts to improve

the governance and delivery of the Habitat Compensation and Restoration Programme associated with shoreline management delivery.

While engineered flood defences are essential, nature-based solutions provide added benefits for biodiversity and human wellbeing. The EA has highlighted their value alongside traditional defences in its recent policy statement. The December 2024 revision of the National Planning Policy Framework introduced a requirement for all developments in areas at risk of flooding or which could affect drainage on or around the site, not just major ones, to incorporate Sustainable Drainage Systems, proportionate to the nature and scale of the proposal.²¹ However, Schedule 3 of the Flood and Water Management Act 2010, which would establish a statutory framework for approving Sustainable Drainage Systems, has not yet been brought into force.

At present that there are approximately 170 nature-based flood management projects active or approved across the Flood and Coastal Defence Programme and the Natural Flood Management Programmes.⁷¹⁹ Additional government initiatives such as the Environmental Land Management Scheme includes projects addressing sustainable soil management and woodland creation in catchment areas, which also deliver nature-based flood solutions. The Water Environment Improvement Fund also includes projects using nature-based flood management, as do broader green infrastructure efforts such as the Nature Towns and Cities programme, and various peatland restoration activities.

To support flood resilience efforts more generally, in September 2024, government established the Floods Resilience Taskforce.⁷³⁷ This focuses on building national resilience to flooding, including assessments of readiness and capabilities to prepare, respond to, and recover from flooding. The Taskforce brings together government bodies, industry, businesses, and environmental charities. In July 2024, Defra's Marine Natural Capital and Ecosystem Assessment programme and UK Research and Innovation also launched the £14.8 million Resilient UK Coastal Communities and Seas Programme, to enhance understanding of coastal resilience and natural capital preparedness.⁴⁹

High temperatures

The APR does not include any actions specifically aimed at increasing resilience to high temperatures and drought, and progress in addressing urban heat remains limited.

In 2024, an evidence review was published examining the scientific basis for the impacts of adverse weather on health and wellbeing, along with the release of the second edition of the Adverse Weather and Health Plan.⁷²² This fulfilled government's commitment to provide unified guidance on health and climate. However, as noted in our previous report, while the plan sets a strategic direction, it lacks delivery actions to build resilience. Further steps that are effectively monitored are needed to comprehensively address heat risks.

Efforts to expand green infrastructure are ongoing, such as the launch of the Nature Towns and Cities programme and revisions to the National Planning Policy Framework (see [Chapter 11](#)). Urban tree planting and updated building design guidance can help to enhance the resilience of urban environments to rising temperatures. However, long-term targets and a coordinated, cross-government strategy to tackle urban heat are still lacking and the effectiveness of current measures is difficult to evaluate.

Drought

Although not reported on in the APR 2025, progress on drought preparedness included consultation on England's National Drought Management Framework (Drought: how it is managed in England) which concluded in January 2025. This aims to provide a framework for cross-sector coordination and emphasises the role of indicator monitoring.⁷³⁸ The EA also consulted on updated guidance for water company drought plans, with revised plans expected to enter public consultation in the autumn.⁷³⁸

Water companies are also publishing their statutory Water Resources Management Plans (see [Chapter 4](#)). Ofwat final determinations allow more than £8 billion for water supply and demand to fund companies to deliver what is set out in these Water Resource Management Plans. This will allow companies to build nine new reservoirs, 12 water recycling plants, and deliver over 500 km of interconnectors. This investment will also help reduce demand through the delivery of 10.4 million smart meters.⁷³⁹

Additionally, public health guidance was refreshed to better support communities during water stress and in April 2024, a £1.6 million fund was launched to help farmers improve water storage.⁷⁴⁰ The UK Centre for Ecology and Hydrology also introduced a Floods and Droughts Research Infrastructure programme to strengthen resilience through near real-time data monitoring.⁷⁴¹

Wildfires

Assessing progress on wildfire risk in England remains difficult as there is a lack of clear long-term targets and resilience to wildfires in England is largely unevidenced.¹⁴⁵

The APR 2025 does not include specific actions related to wildfires, although some peatland restoration activities are reported under the Climate Change goal.⁴⁹ The Climate Change Committee (CCC) has found that the UK is inadequately prepared for impacts (including wildfires) associated with climate change, with adaptation efforts remaining fragmented and inconsistent.¹⁴⁵

Wildfires also place significant strain on fire and rescue services, diverting resources from other emergencies and incurring significant costs. Rescue services are primarily trained for urban and structural fires, making wildfire response challenging.¹⁴⁵ According to the National Fire Chiefs Council, there is no dedicated funding for wildfire response.⁷⁴²

Co-ordination between land managers, emergency services, and public health authorities remains limited. Since fire and rescue services are responsible for producing Community Risk Management Plans, they are excluded from climate change Adaptation Reporting.⁷⁴³ However, these plans inconsistently address wildfire risks and climate adaptation, and the provision of actionable guidance for land managers varies.⁷⁴⁴

This year marked a shift in ministerial responsibility for wildfire management, transferring oversight from the Home Office to the Ministry of Housing, Communities and Local Government. This change follows recommendations outlined in the Grenfell Tower Report, aimed at improving governance and co-ordination.⁷⁴⁵ The Government has also funded a National Resilience Wildfire Advisor to assess resilience to wildfire risk.¹ However, progress towards the Wildfire Strategy and Action Plan has stalled. The scoping report for the strategy, which is an action included in the Third National Adaptation Plan, has not yet been published and gaps in national wildfire risk management remains.

Wildfires impact diverse landscapes, including farmland, woodlands, heathlands, and peatlands. Many occur near urban areas, with direct risks for public health and infrastructure. Between 2009 and 2021, the largest landscape-scale fires were most common in mountains, heaths, and bogs (38.9%).^{746,747} Severe fires that penetrate dry peat release greenhouse gases, degrade biodiversity, and compromise water quality in peat-fed catchments, many of which supply drinking water. These fires are hard to extinguish, can smoulder underground for long periods, and often cause smoke-related health hazards, evacuations, and road closures.

In March 2025, Natural England published an updated evidence review on the effects of managed burning on upland peatland biodiversity, carbon, and water.⁷⁴⁸ In the same month, Defra launched a public consultation on proposed amendments to the Heather and Grass etc. Burning (England) Regulations 2021.⁷⁴⁹ These currently prohibit burning on deep peat on a subset of protected sites in England, unless licensed.

In addition, the APR 2025 outlines several peatland restoration efforts, notably the Nature for Climate Peatland Grant Scheme, which Natural England reports has been broadly effective for large-scale restoration. The scheme concludes in 2025, but Defra has pledged further funding for ongoing projects into 2026.

Other programmes, such as the Landscape Recovery scheme and the Paludiculture Exploration Fund, are expected to replace the Peatland Grant Scheme.⁷⁵⁰ However, ensuring continuity and the longevity of partnerships established under the existing scheme are important and Natural England's evaluation of the grant scheme stresses the need for a long-term policy and funding framework.⁷⁵¹

Table 9.3. Reduced risk of harm from environmental hazards – summary assessment of progress over the annual reporting period towards meeting targets and other commitments

Targets and commitments (EIP23 unless otherwise indicated)	Progress
Better protect 100,000 properties from flooding and coastal erosion by 2024, and 336,000 by 2027.	Good
Maintain at least 94% of major flood and coastal erosion risk management assets fit for their designed purpose, through to March 2025. Our long-term aim is for this to reach 98%.	Mixed
Double the number of government-funded projects to reduce flooding and coastal erosion through nature-based solutions to 260 projects by 2027.	Good

9.5. Prospects of meeting ambitions, targets and commitments

Overall, government is partially on track to reduce the risk of harm to people, the environment and the economy from natural hazards. A summary assessment of the prospects of meeting the commitments we assessed is in [Table 9.4](#), with further detail provided below.

The commitment of better protecting 100,000 properties by 2024 has been met, largely as a result of the EA's sustained efforts through their large-scale flood defence programme. However, prospects for meeting the longer-term commitment remain uncertain in the changing policy context. Protection from flooding is a Defra priority but the pace and scale

of effort is unlikely to achieve better protection for an additional approximately 220,000 properties by 2027.

In 2023, the EA forecasted that around 200,000 properties would be protected by the end of the Flood and Coastal Risk Management investment programme, a 40% reduction from the original goal, influenced by the COVID-19 pandemic and EU Exit which caused supply chain difficulties.⁷¹⁵ The programme is now set to finish in 2026, a year earlier than planned but a revised two-year programme under the Plan for Change has been announced and there may be revisions to commitments in the next EIP.¹⁴⁵ Overall, the prospects are rated as partially on track.

The prospects of meeting the maintenance commitment for flood and coastal erosion high-consequence defence assets, have improved since last year. Defra is placing higher priority on investment in repairing and restoring critical assets, and in February this year announced they will be spending £72 million of the capital investment on restoration and repair of assets in 2025-26, double the amount of the previous year.⁷⁵²

However, the target date for this commitment has not been met and a 1.2% improvement in high-consequence assets is needed to do so. The long-term commitment of 98% has no target date so the prospects of meeting this cannot be assessed, but current budget commitments are targeting achieving around 94.5% of high-consequence assets maintained.

The EA has recently issued a position statement endorsing nature-based solutions, alongside engineered solutions, as an approach to managing environmental hazards and supporting their inclusion in broader funding schemes.⁷⁵³ Projects under the Flood and Coastal Erosion Risk Management investment programme and Natural Flood Management scheme are unlikely to meet the commitment of doubling government-funded nature-based initiatives by the target date. However, the broader outlook improves when considering other government-led efforts. Nevertheless, continued uncertainty surrounding future policy direction and commitments means that the prospects of achieving this commitment remain only partially on track.

The EIP23 has no specific commitments to address urban heat, drought, and wildfires, and there is limited evidence to suggest that the ambitions outlined for these hazards are likely to be achieved. Inadequate action is compounded by worsening trends that indicate growing risk and uncertainty in these areas. In the UK, weather conducive to wildfires is projected to occur more frequently in coming years and annual deaths linked to extreme heat are projected to exceed 21,000 by the 2070s.^{747,754}

With regard to drought resilience, by 2055, England's population could grow by eight million, placing greater pressure on increasingly scarce water resources. Without sustained and enhanced action, an additional five billion litres per day may be needed for public water supply, plus another one billion litres for other essential uses such as energy and food production.³⁴⁶ This has impacts for people and nature. According to the National Framework for Water Resources 2025, water companies aim to be resilient by 2040 to droughts with a 0.2% annual probability (see [Chapter 4](#)).³⁴⁶

Table 9.4. Reduced risk of harm from environmental hazards – summary assessment of prospects of meeting targets and other commitments

Targets and commitments (EIP23 unless otherwise indicated)	Prospects
Better protect 100,000 properties from flooding and coastal erosion by 2024, and 336,000 by 2027.	Partially on track
Maintain at least 94% of major flood and coastal erosion risk management assets fit for their designed purpose, through to March 2025. Our long-term aim is for this to reach 98%.	Partially on track
Double the number of government-funded projects to reduce flooding and coastal erosion through nature-based solutions to 260 projects by 2027.	Partially on track

9.6. Opportunities for improvement

Government has the opportunity to make meaningful progress towards strengthening national resilience to natural hazards, and the costs of inaction are high. Critical services such as urban heat regulation, flood control and water provision are immensely valuable and should not be underestimated.⁴

Outcomes in adaptation to natural hazards can be improved through clearer strategy and stronger evidence. Proposed regulatory reforms and changes to programmes and policy offer an opportunity to develop long-term, measurable plans, backed by sustained investment and robust monitoring.

Long-term goals for flooding and coastal erosion should align with recent risk forecasts and reflect net outcomes, accounting for both newly protected properties and those that have lost protection due to deteriorating defences. Furthermore, resilience commitments should not only prioritise the protection of vulnerable communities but also include commitments to protect nature.

Surface water flooding remains a major concern, and the revised national standards for sustainable drainage systems released in July 2025 mark a positive shift towards reducing sewer discharges and surface water flooding. They position sustainable drainage systems not just as flood mitigation tools, but as key components of green infrastructure.⁷⁵⁵ Though intended to support Schedule 3 of the Flood and Water Management Act 2010, the effectiveness of the revised guidance will depend on alignment with the National Planning Policy Framework and uptake by Local Planning Authorities. Delivering meaningful progress will depend on clear mandates, robust governance, and long-term financial commitment. Bringing Schedule 3 of the Flood and Water Management Act 2010 into force would establish a statutory framework for approving sustainable drainage systems, reinforcing their role in managing sewer discharge and surface water flooding and promoting sustainable water practices.

Securing maintenance funding for flood and erosion assets, reservoirs as well as local green urban spaces, has consistently been a challenge. Maintenance of assets and green infrastructure provides value for money and is critical if commitments are to be met. Additionally, new planning legislation and the current growth agenda provide opportunities for embedding resilience into new developments. Prioritising space for water and designing for urban heat are essential components of future-proof planning.

Many opportunities also exist for improving outcomes for reducing risk to natural hazards beyond flooding and coastal erosion. Efforts to address data gaps, particularly around adaptation to wildfires and heat in England are critical for achieving a more resilient future.

Since 2024, the Government has funded a National Resilience Wildfire Advisor to assess what additional national capabilities might be needed to increase resilience to wildfire risk. However, without a Wildfire Strategy and Action Plan, the co-ordination between land managers, emergency services and public health authorities remains weak.

The move of fire services to Ministry of Housing, Communities and Local Government is a timely opportunity to improve coordination and strengthen capacity in dealing with wildfires. The Ministry should consult on and publish the Wildfire Strategy and Action Plan, establishing clear targets for risk reduction and performance indicators. It should adopt an internationally recognised definition of wildfire and strengthen the evidence base, which should include an analysis of legislative and regulatory gaps and measures to address these.

Peatlands also play an important role in carbon storage, flood mitigation, and enhancing resilience to wildfires. Peatland restoration efforts reduce the risk of ignition and help slow the spread of fire. With the Peatland Grant Scheme coming to an end, it is essential that government establishes a robust and long-term funding mechanism to sustain restoration activities and maintain continuity for existing partnerships and projects.

As noted in our 2023/2024 progress report, and by the CCC in their latest progress report to Government, tackling future heat risk requires clear guidance and leadership from government. It also requires a long-term, cross-sector strategy and coordinated effort across national, regional, and local levels.

Recommendations for reduced risk of harm from environmental hazards

In our 2022/2023 progress report, we made three recommendations relating to policy development and funding programmes. Progress to date has been mixed or limited. These issues remain relevant and are reflected in subsequent recommendations.

In our 2023/2024 progress report, we made five recommendations.

Government has accepted and deferred a full response to our recommendation for lead local authorities to establish delivery plans for surface water flooding. Government has indicated they will address this recommendation in their response to the National Infrastructure Assessment. Therefore, we are currently unable to assess progress regarding this recommendation, and it still stands.

Government has deferred a full response to our recommendation to bring into force Schedule 3 of the Flood and Water Management Act 2010 and update its technical standards for sustainable drainage systems. Progress during the annual reporting period has been mixed, and government has indicated that a decision on the way forward will be made in the coming months. Therefore, this recommendation still stands.

Government has partially accepted our recommendation on expanding the monitoring of flood resilience measures. Government has stated that while the current metric is simple and widely understood, they are considering how to measure progress for the next investment programme due to start in April 2026. Therefore, we are currently unable to assess progress regarding this recommendation, and it still stands.

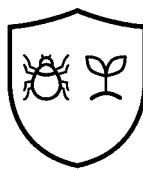
Government has rejected our recommendation to develop a dedicated heat resilience strategy. Progress during the annual reporting period has been limited in addressing this issue. The CCC have identified the lack of a coherent cross-government strategy to help coordinate action on tackling urban heat nationally and at local level as a key policy gap and recommended that government develop one.¹⁴⁵ Therefore, this recommendation still stands.

Government has deferred a full response to our recommendation on the Wildfire Strategy and Action Plan to set clear targets for wildfire reduction, implement adaptative and preventative measures, enhance public awareness and strengthen the evidence base. Progress during the annual reporting period has been mixed and government has indicated that it is considering its next steps on policy options for wildfire. Therefore, this recommendation still stands.

Chapter 10: Enhancing biosecurity



Chapter 10: Enhancing biosecurity



10.1. Summary assessment

To restore nature and strengthen the resilience of ecosystems, agriculture and forestry to climate change, it is essential to enhance biosecurity and address the impacts of invasive non-native species (INNS). Government has a target to reduce the numbers of introduction and establishment of INNS by at least 50% by 2030 compared with 2000.

The number of INNS becoming established continues to rise along with their distribution in freshwater, marine and terrestrial environments. Meanwhile with far more investment in biosecurity for plant health than for INNS, the number of additional tree pests and diseases becoming established since 2000 has decreased.

The GB Non-native Species Secretariat continues to drive action and coordinate a strong partnership approach. There is progress on horizon scanning, risk assessment, pathway action plans and improving compliance with legislation. However, current resources are not enough to enable delivery at the pace and scale needed.

The prospects of achieving the target remain largely off track. Allocation of resources is still not following the recommended approach of prioritising prevention, followed by early detection and rapid response, then management and control. The Non-native Species Inspectorate continues to have relatively limited capacity and powers.

Government has opportunities, but simply doing more of the same will only deliver incremental improvements. A more systematic risk-based programme of surveillance is needed along with an expanded Non-native Species Inspectorate that has legal authority equivalent to those for animal and plant health. Together these could drive the change needed to deliver improvements at scale.

Table 10.1. Enhancing biosecurity – summary assessment

Past trends	There has been increasing establishment of INNS since 1960, with no indication that trends are changing.	Deteriorating trends dominate
Progress in the reporting period	The GB Non-native Species Secretariat and Inspectorate continue to deliver positive actions but their limited capacity and powers means this is not at the necessary pace and scale.	Mixed
Overall prospects of meeting ambitions, targets and commitments	Government remains off track to meet the INNS target. Not enough priority is being given to prevention, early detection and rapid response. Overall resourcing to tackle INNS is very low in comparison to other biosecurity regimes. Increasing the capacity of the GB Non-native Species Secretariat and capacity and powers of the Inspectorate would improve prospects.	Largely off track
Robustness	The assessment has primarily used sources of publicly available information and expert judgement. Key evidence gaps remain, but they are being addressed through the GB INNS Evidence Strategic Plan.	

10.2. Context and commitments

INNS are one of the top five drivers of biodiversity loss globally. They impact the economy, food security, water security and human health.⁷⁵⁶ Risks from pests, pathogens, and INNS continue to rise due to increased trade, travel, and climate change.³⁶

The economic impact of INNS in the UK has increased 45% between 2010 and 2021, in terms of comparable costs. In 2021, the total annual cost to England was estimated at £1.4 billion, with impacts on agriculture accounting for more than 60% of the costs.⁷⁵⁷

The Environmental Improvement Plan 2023 (EIP23) includes aims to enhance biosecurity to protect nature and livelihoods, increase the resilience of plants and trees, and bolster trade. It lists measures intended to protect and enhance animal and plant health and address INNS. Our assessment continues to focus on INNS given that effective management of INNS can support improved outcomes in other areas, such as water and nature.

The EIP23 sets a target to reduce the number of introductions and establishments of INNS by at least 50% by 2030, compared with 2000. The UK has also adopted Target 6 of the Kunming-Montreal Global Biodiversity Framework. This more comprehensive target also includes identifying and managing pathways, preventing the introduction and establishment of priority INNS, reducing the rates of introduction and establishment of known or potential INNS by at least 50% by 2030, and eradicating or controlling INNS, especially in priority sites, such as islands.⁴⁶

The Great Britain Invasive Non-Native Species Strategy 2023-2030 (GB INNS Strategy) provides the overall framework for addressing INNS.⁷⁵⁸ It includes a vision that 'Great Britain's biodiversity, ecosystems, people and the economy are protected from the risks posed by invasive non-native species through a strong partnership of government, voluntary organisations, non-governmental organisations, researchers, businesses and the public'. The strategy lists seven key outcomes to achieve this vision and follows the hierarchical approach of the Convention on Biological Diversity. This emphasises prevention, followed by early detection and rapid response and then management and control. In addition, the EU Regulation 1143/2014 on the prevention and management of the introduction and spread of invasive alien species (EU Regulation on Invasive Alien Species) has been retained in domestic law. At its core is a list of invasive alien species of special concern that are subject to restrictions.⁷⁵⁹

Delivery of the GB INNS Strategy is overseen by the UK Non-native Species Programme Board, the GB Non-native Species Committee and the GB Non-native Species Secretariat (GB NNSS). The GB NNSS acts on behalf of the Programme Board and Committee and is the focal point for coordination and communication. Interactions between key stakeholders and the Programme Board are facilitated by the GB NNSS and its website through working groups and an annual stakeholder forum.

10.3. Key environmental trends

The Outcome Indicator Framework has two biosecurity indicators under development. One will show how the number of INNS entering Great Britain has changed by comparing a predicted trend for establishment of INNS against actual establishment. The other will show changes in the distribution of INNS and plant pests already established in England. They were not available for reporting in 2025 in a finalised form, so the interim indicators have been used instead.

The number of INNS becoming established continues to rise. Of the 2,074 established non-native species in Great Britain, 195 are considered to have a negative impact on native biodiversity and are therefore termed invasive (47 freshwater species, 40 marine species and 108 terrestrial species).⁷⁶⁰ However there is uncertainty regarding these numbers, particularly in the marine environment, due to data limitations and a lack of comprehensive monitoring.⁷⁶¹

Between 1969 and 2023, the number of INNS established in or along 10% or more of Great Britain's land area or coastline has increased significantly by 217.6%, with increases in freshwater, marine (coastal) and terrestrial environments (Figure 10.1). The greatest increases have been observed in marine and terrestrial environments (28 and 36 species respectively). A recent survey of 51 English and Welsh marinas recorded a 29% increase in non-native species records since comparable surveys of the same sites between 2014 and 2016.⁷⁶²

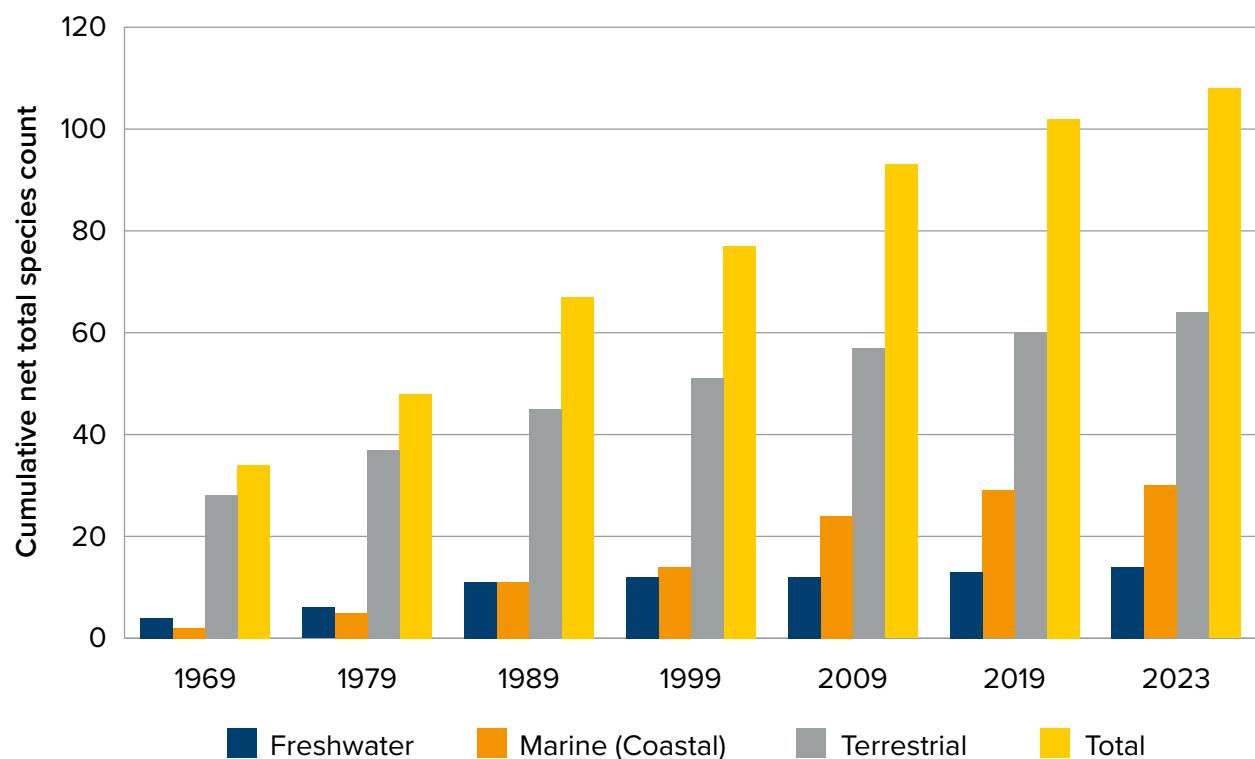


Figure 10.1. Cumulative net total number of INNS established across or along 10% or more of the land area or coastline of Great Britain, from 1969 to 2023.⁷⁶⁰

Between 2000 and 2024, there has been a decrease in the number of additional tree pests and diseases becoming established in England within a rolling 10-year period, although the short-term trend has been more stable (Figure 10.2). In total, 11 tree pests and diseases became established over this period including, most recently, plane lace bug (*Corythucha ciliata*) in central London in 2024.⁸⁰

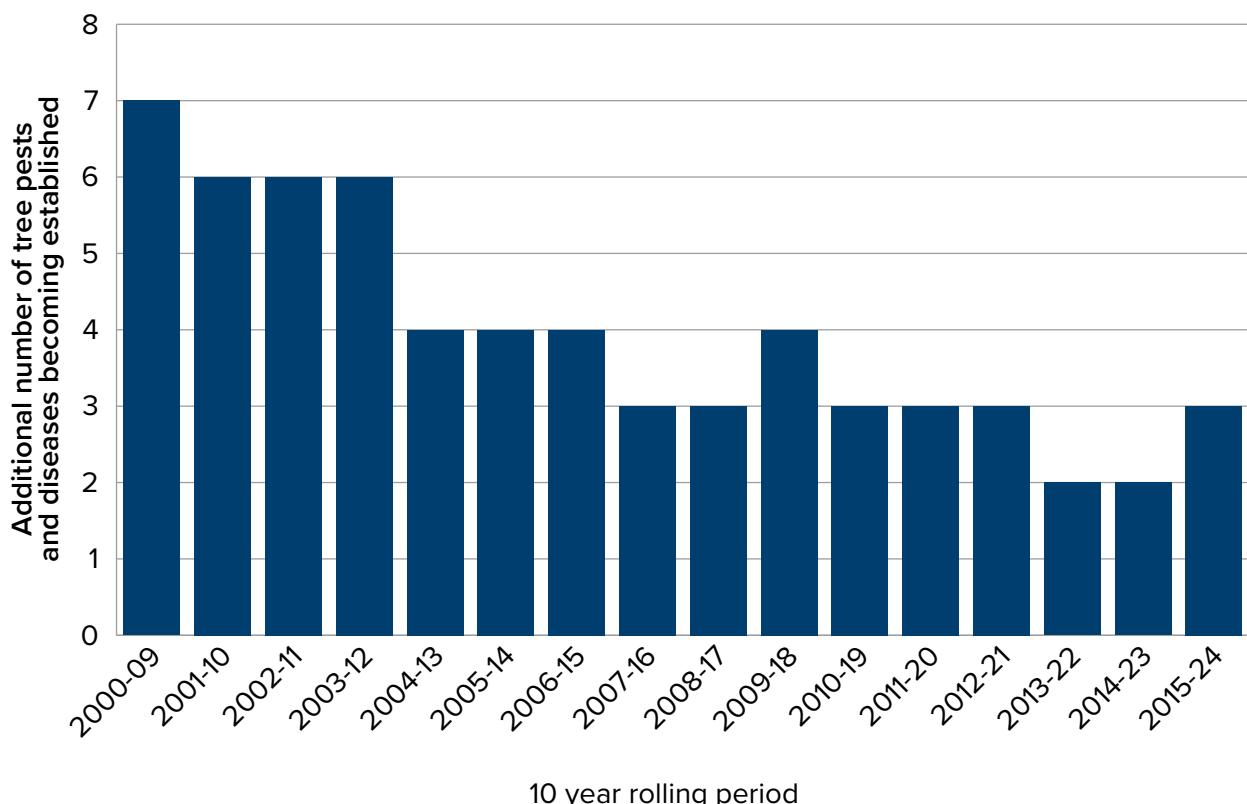


Figure 10.2. Number of additional tree pests and diseases becoming established in England, from 2000 to 2024.⁷⁶³

A summary assessment of the key trends we assessed is provided in Table 10.2.

Table 10.2. Enhancing biosecurity – summary assessment of key trends

Indicator	Indicator trend	Trend time period
Number of INNS becoming established	↑	1969-2023
Number of additional tree pests and diseases becoming established	→	2010-2019 to 2015-2024

10.4. Progress towards ambitions, targets and commitments

The Annual Progress Report 2025 (APR 2025) reports a range of actions relating to enhancing biosecurity.⁴⁹ These include management actions, compliance activities, funding schemes, development of plans and metrics, and research. We have complemented this picture of activities within the annual reporting period with wider evidence gathering. A summary assessment of the targets and commitments we assessed progress towards is provided in [Table 10.3](#), with further detail given below.

Policy, governance and resourcing

The GB INNS Strategy has a key outcome of improving coordination of actions within governments, government associated bodies and key actors outside government. Delivering strategy outcomes is dependent on a strong partnership approach and stakeholder involvement.

In our 2023/2024 progress report, we recommended that Defra, working with the devolved governments in Scotland and Wales, fulfil the strategy commitment to publish an implementation plan. An implementation plan that identifies key leads and contributors for action will enable stakeholders to play their part in delivery more effectively.

Defra, the Scottish Government and Welsh Government have published a 'Plan on a Page' that highlights key actions and timings for their delivery.⁷⁶⁴ It does not cover the full timeframe of the strategy, but is intended to be updated at regular intervals. This is a welcome development. However, the plan is very limited in detail and only sets out a timeline for some actions. This does not fulfil the strategy commitment (Key Action 11.3) to publish an implementation plan that identifies key leads and contributors for actions and contributes to monitoring delivery and to reviewing the success of actions in achieving outcomes and objectives. The implementation plan should also feed into an annual progress report. An annual progress report is yet to be published although the GB NNSS continue to provide an update on activities at the annual stakeholder forum.

To assess progress towards the EIP23 target and the seven key outcomes in the GB INNS Strategy, suitable metrics must be developed and used. The strategy states that relevant indicators will be used to monitor and report on progress on key actions (Key Action 11.1). The APR 2025 reports that there has been continued work to develop metrics for monitoring progress towards targets and commitments.

This includes continued development of an indicator to track progress towards the target to reduce the rates of introduction and establishment of INNS by at least 50% by 2030, compared with 2000. This will involve a combination of analytical approaches and action-focused metrics. However, without a more detailed implementation plan or annual progress report there is no information available on which additional metrics are being used to monitor progress on key actions beyond the target.

In our 2023/2034 progress report, we emphasised the need for greater transparency regarding the UK Non-native Species Programme Board and GB Non-native Species Committee (Key Action 9.1 of the strategy). There is still a considerable time lag between meetings of the Programme Board and the availability of minutes and the papers considered at the meeting are not published.

During the annual reporting period Defra commissioned an evaluation of the GB INNS Strategy. This is intended to understand how well the strategy is being delivered and the extent it is achieving its intended outcomes. This is a welcome development as it will inform potential changes to strategy implementation and effectiveness. The outcome of the evaluation is scheduled for publication in April 2026 and will be considered in our next progress assessment.

The GB INNS Strategy commits to strengthening the effectiveness of the legislative framework through improved compliance and enforcement. The Non-native Species Inspectorate (NNSI) aims to ensure that INNS legislation is understood by stakeholders

and enforced where necessary. This includes carrying out inspections to identify non-compliance with permits – a duty set out in the Invasive Alien Species (Enforcement and Permitting) Order 2019.⁷⁶⁵ Our report on environmental inspections in England found there was a lack of published guidance on meeting this duty. There was also little information about how the Animal and Plant Health Agency (APHA) and the NNSI interpret and implement it. In July 2024, APHA confirmed there was no inspection regime in place to check invasive alien species permit compliance during the previous financial year (2023/24), and no such inspections had been conducted (although there were 1,378 inspections relating to other aspects of NNSI's regulatory work). However, APHA stated that a permit inspection regime had since been agreed internally and by the end of January 2025, 24 inspections had taken place.¹¹³

The level of resourcing available for addressing INNS remains an issue. In our 2022/2023 progress report we highlighted that INNS only receive 0.4% of biosecurity expenditure.⁷⁶⁶ The GB NNSS assessed government expenditure on INNS in Great Britain during 2023-24. This was broken down into biosecurity-related INNS spend and biodiversity-related INNS spend. The annual biosecurity INNS spend was estimated at £2.47 million, representing approximately 0.9% of estimated biosecurity spend. The annual biodiversity-related INNS spend was estimated at around £22.7 million, representing 3% of the biodiversity spend. This is only a general indication of the expenditure by the main delivery bodies.⁷⁶⁷

This means that resourcing remains a challenge for the NNSI, despite recent increases in funding and staff numbers. The NNSI has a much wider remit than permit compliance. It includes education, data collection, inspections at premises and events, rapid response and control activities. Since spring 2023, the NNSI has increased its staff from 11 to 16 inspectors. The GB NNSS received a budget increase in the financial year April 2024 to March 2025 bringing overall funding to £2.16 million.¹¹³ However, this falls short of the 'at least' £3 million recommended by the House of Commons Environmental Audit Committee in 2019 (not accounting for inflation), before the NNSI was established.⁷⁶⁸

Despite these challenges, the NNSI is an effective tool for enhancing biosecurity. The APR 2025 reports that in the financial year April 2024 to March 2025, the NNSI undertook 876 systematic visits, and non-compliance rates among premises had dropped to 9% in 2025 from 16% in 2022 when the NNSI was established.

Prevention

To achieve the target to reduce the rate of introductions and establishments of INNS, prevention must be the priority. Prevention actions include horizon scanning, risk assessment, import controls and border security, and pathway management.

The APR 2025 reports that a horizon scanning exercise was carried out in March 2025. This identified the top 20 non-native species likely to become invasive in Britain over the next 10 years. This is a welcome development as it will inform the establishment of a list of priority species. The Kunming-Montreal Global Biodiversity Framework Target 6 includes the commitment to prevent the introduction and establishment of priority INNS. Identification of priority species will also support other prevention actions such as identifying priority pathways for management.⁷⁶⁹

The GB NNSS runs the GB Non-native Risk Analysis Mechanism and there are currently around 150 completed risk assessments.⁷⁷⁰ The risk assessment process is robust and takes account of developments in international standards. However, in our 2023/2024 progress

report we highlighted the slow process of laying statutory instruments for listing and de-listing species of special concern. We gave the example of 10 species agreed for de-listing in 2022 that remained on the list. The ‘Plan on a Page’ indicates that the listing and de-listing of species is now scheduled to take place between November 2025 and June 2026.

While border control actions do not address INNS directly, they are addressed indirectly where species are a shared concern for plant or animal health. New border controls have been progressively introduced from January 2024 as part of the Border Target Operating Model. However, a report by the Environment, Food and Rural Affairs Committee found that Defra has no effective system of oversight for commercial biosecurity border controls. The Environment, Food and Rural Affairs Committee highlighted a range of issues including inconsistent enforcement, flawed digital systems, inadequate consultation and limited support for local authorities.⁷⁷¹ As well as threatening animal and plant health, this could also mean ineffective management of the pathways for introduction of INNS.

The establishment and implementation of pathway action plans (PAPs) is a requirement under the EU Regulation on Invasive Alien Species. The GB INNS Strategy has identified priority pathways for the introduction and spread of INNS. PAPs set out a series of actions for stakeholders, with an emphasis on awareness raising, promoting best practices and implementing biosecurity measures. They are developed with the involvement of stakeholders and finalised after consultation.

The APR 2025 reports that a pets PAP was developed. PAPs have already been developed for other priority pathways including zoos, recreational boating, angling and horticulture. Although commercial shipping hull fouling and ballast water are also priority pathways, the GB INNS Strategy states that these are addressed by the International Maritime Organization, marine licensing and the International Convention for the Control of Ships’ Ballast Water and Sediments 2004. However, other pathways for marine INNS exist including marine litter.⁷⁷²

In our 2023/2024 progress report we highlighted that delays in the consultations needed to finalise PAPs were hampering their implementation and the contribution they could make to preventing INNS introductions and establishments. Consultations have now finally occurred – this is a welcome development.

The NNSI has also contributed to an improved understanding of unintentional pathways, such as angling, boating and containers. Between 2024 and mid-2025, the NNSI carried out roughly 1,000 inspections and recorded a contamination rate of 20% for containers, 17% for boats and 8% for angling equipment. The NNSI estimated that there could be around 1,000,000 contaminated units per year in these pathways in Great Britain.⁷⁷³

Early detection and rapid response

Early detection and rapid response are vital to prevent establishments once an INNS is introduced. The GB INNS Strategy has an objective to develop and maintain a surveillance, early detection and monitoring mechanism that facilitates management responses including rapid responses.

Records of INNS are contained in the Non-Native Species Information Portal. A species alert mechanism supports the rapid recording of new species. A focused list of alert species (9 vertebrates, 5 invertebrates, 7 plants) aims to improve detection and reporting. Two new species were added to the list in 2025: Chinese mystery snail (*Cipangopaludina chinensis*), which is locally established in two areas, and Yellow-seeded false pimpnel (*Lindernia dubia*) which was recorded for the first time in 2024.⁷⁷⁴

The APR 2025 reports that the APHA National Bee Unit has responded to the yellow-legged hornet (*Vespa velutina*) destroying 24 nests. This has increased to 160 nests at the time of writing. Other GB-level response actions have targeted the acrobat ant (*Crematogaster scutellaris*), ruddy duck (*Oxyura jamaicensis*), eastern baccharis (*Baccharis halimifolia*), and water primrose (*Ludwigia grandiflora*), among others. However, limited capacity means it is challenging to screen species and determine an appropriate and timely response.

Management and control

The GB INNS Strategy contains an objective to minimise and manage the impact of established INNS in a cost-effective and strategic manner. This involves supporting local action, ensuring INNS management is included in new agricultural and land management schemes, and funding research into management methods.

Local Action Groups (LAGs) play an important role in managing INNS. They focus on reducing the risks and impacts of INNS within a specific area. There are over 100 LAGs in Great Britain, covering over 60% of the land area. LAGs deliver local and regional management of INNS, often with volunteers, and increase awareness of INNS within their communities. LAGs currently manage 52 INNS across all major habitats.⁷⁷⁵ The most common species managed by LAGs include Himalayan balsam (*Impatiens glandulifera*), Japanese knotweed (*Fallopia japonica*), giant hogweed (*Heracleum mantegazzianum*), floating pennywort (*Hydrocotyle ranunculoides*) and signal crayfish (*Pacifastacus leniusculus*).

LAGs can be highly effective. For example, a trial in East Anglia by the Waterlife Recovery Trust has shown that it is feasible to eradicate American mink (*Neovison vison*) from large areas of Britain with the right tools and resourcing.⁷⁷⁶ The APR 2025 reports that the LAGs funded under the Local Invasive Species Management Fund managed over 234,000 metres of riverbank and surveyed over 68,000 metres of watercourse for INNS. However, the Local Invasive Species Management Fund has now ended.

There has been progress in integrating INNS management into new agricultural and land management schemes. Although further attention needs to be paid to the scale and spatial cohesion of actions (Box 10.1). Scale and spatial cohesion are important when managing INNS, particularly those that can readily disperse. For example, effective control of riparian INNS requires that activities are carried out at the catchment scale, including management in upstream areas to reduce the risk of reinvasion downstream. A spatially coordinated approach is essential for successful control and eradication.

Box 10.1. Opportunity for greater spatial cohesion of biosecurity actions funded through Countryside Stewardship schemes

Environmental land management schemes offer support to farmers and landowners to manage INNS on their land. In January 2024 DEFRA updated the list of species recovery and management actions that would be supported through the Countryside Stewardship (CS) scheme.⁷⁷⁷ This included new actions to control American mink (*Neovison vison*).

American mink are found throughout the UK. They kill and eat native species, including the endangered water vole. However, as with many INNS, a spatially coordinated approach is required where eradication is the aim. Without this, reinvasion can occur from uncontrolled neighbouring areas. When actions are carried out at the right scale and adequately resourced, the results are promising.⁷⁷⁶ Uncoordinated small-scale actions are unlikely to be effective.

There is an opportunity through the current CS Higher Tier scheme for Natural England to encourage spatial coordination of INNS control at an appropriate scale. Although there is no formal requirement for coordination, more joined up management can be promoted through the approval process for species management plans. The species management plan template for American mink asks for details on collaborating with neighbours where eradication is the aim.⁷⁷⁸ However, it remains to be seen to what extent spatial coordination will occur as the degree of spatial cohesion of actions funded through prior iterations of CS that aimed to control deer, grey squirrels, or invasive plant species is unclear.

The APR 2025 reports that Defra has continued to fund research into biological control of riparian INNS and that notable progress has been made. The specialist biocontrol weevil (*Listronotus elongatus*) has been found persisting on floating pennywort populations at 12 sites. Floating pennywort biomass appears to have reduced across a number of sites.⁷⁷⁹

Awareness raising

Raising awareness of INNS among the general public and relevant sectors is one of the seven key outcomes in the GB INNS Strategy. It is essential for driving behaviour change that enhances biosecurity by supporting surveillance and early detection of INNS thorough observations from members of the public.

An annual Invasive Species Week takes place to raise awareness of the issues and work being undertaken to address INNS. During the annual reporting period (May 2024), over 200 organisations across the UK, Ireland, Jersey, Guernsey and the Isle of Man hosted 75 events to raise awareness of INNS, their environmental and economic impacts and the measures needed to prevent their spread.⁷⁸⁰

In 2024, the GB NNSS sent out over 165,000 awareness raising materials. They included alert posters and ID sheets for Asian hornet, Check Clean Dry leaflets and signs, and information for gardeners about invasive plants through the Be Plant Wise campaign.⁷⁷⁴ A repeat of the 2018 survey on awareness of INNS issues would enable an assessment of the effectiveness of campaigns such as Check Clean Dry and Be Plant Wise.⁷⁸¹

Looking across the objectives and outcomes of the GB INNS Strategy and at the target, overall progress in the annual reporting period is mixed. Positive actions are happening.

For example, the publication of the last draft PAP, improved compliance rates, and development of a priority list of INNS. But the scale and pace at which actions can be implemented continues to be affected by inadequate resourcing – including the complete removal of the small LAG support fund.

Table 10.3. Enhancing biosecurity – summary assessment of progress over the annual reporting period towards meeting targets and other commitments

Targets and commitments (EIP23 unless otherwise indicated)	Progress
Reduce the number of introductions and establishments of INNS by at least 50% by 2030 compared to 2000.	Mixed

10.5. Prospects of meeting ambitions, targets and commitments

The prospect of meeting the target to reduce the number of introductions and establishments of INNS by at least 50% by 2030 compared with 2000 is largely off track ([Table 10.4](#)). In our previous two reports we stated that this was despite having a well-established and comprehensive approach and governance with the right tools in place.

However, actions are still not taken with the necessary urgency or at the scale required to achieve the target. This is because overall resourcing remains very low and not enough is allocated to the priority areas of prevention and rapid response. Without addressing this fundamental issue overall prospects will not change.

Table 10.4. Enhancing biosecurity – summary assessment of prospects of meeting targets and other commitments

Targets and commitments (EIP23 unless otherwise indicated)	Prospects
Reduce the number of introductions and establishments of INNS by at least 50% by 2030 compared to 2000.	Largely off track

10.6. Opportunities for improvement

Government has clear opportunities to improve outcomes. With adequate resources, political will and long-term commitment, preventing introductions and establishments of INNS are attainable goals.

Our 2022/2023 progress report contained a comparison of the annual expenditure, level of threat and success of biosecurity regimes. Plant health has significantly more resources than INNS, including for inspections, and this is reflected in the different trends for establishments of INNS compared to tree pests and diseases.

The NNSI has fewer powers than the corresponding inspectorates for animal and plant health. For example, the NNSI does not have the same powers of entry to private dwellings as plant health inspectors and, in some cases, animal health inspectors. Government should speed up action on identifying what further powers may be needed for the NNSI to undertake effective compliance and enforcement action (Key Action 9.4 in the strategy).

Longer term funding is also needed for INNS actions, particularly for LAGs as they can deliver cost-effective local management of INNS. The latest funding was only available for

2 years. One of the key challenges for LAGs is securing future funding. Greater funding security would deliver better outcomes and build on investments made to date. The termination of the Local Invasive Species Management Fund is not in line with the GB INNS Strategy which aims to assist LAGs by providing funding for coordinators and seeking relevant, long-term and timely funding mechanisms (Key Action 5.2).

One factor that may contribute to the difference in resourcing is that INNS are primarily seen as a biodiversity issue whereas plant and animal health are seen to have stronger economic relevance. A change of mindset is needed as INNS also have wider environmental, social, economic and human health impacts.

Prevention is one of the most cost-effective options for managing threats from INNS. The completion of the public consultation on PAPs is an important step in improving pathway management. Government's response to the consultation is due by December 2025 and government should now prioritise the timely publication and implementation of the finalised PAPs. However, PAPs rely on voluntary participation from stakeholders to achieve the actions they set out. This means their uptake, use and impact will need to be monitored to assess their effectiveness.

The GB NNSS is working to identify priority INNS for eradication, based on impacts and feasibility, and developing contingency responses for species yet to arrive. Once implemented, these actions should help to reduce the number of establishments of INNS, but the capacity and resources available will limit the scale of impact.

Government also has an opportunity to improve progress by scaling up and speeding up action on surveillance. Beyond the inspections carried out by the NNSI – in contrast to plant and animal health – there is little systematic risk-based surveillance for INNS in England. Monitoring and surveillance of INNS largely relies on opportunistic public reporting, ad-hoc or small-scale surveys, and records captured as part of other programmes.

There is a risk that hotspots for introduction and spread of INNS may be missed, leading to delays in detection and response. The GB INNS Evidence Strategic Plan specifies the identification of hotspots for surveillance as a way to reduce delays in detecting INNS.⁷⁸²

As part of their operational objectives, the Centre for Environment, Fisheries and Aquaculture Science committed to delivery of a programme of standardised monitoring surveys and identification of INNS hotspots for surveillance in 2024.⁷⁶¹ The aim is to improve early detection and rapid response in the marine environment. This could be expanded to terrestrial and freshwater environments providing more comprehensive risk-based INNS surveillance. This would be in line with the GB INNS Strategy commitment to develop dedicated surveillance for priority species and pathways (Key Action 4.5).

Managing INNS often requires coordination at catchment and landscape scales. Where this does happen, management can be highly effective. Government has the opportunity to support greater spatial cohesion of action through the approval process for funding schemes such as the Countryside Stewardship scheme.

Government has opportunities to improve progress by strengthening policy coherence, but this is also essential to prevent unintended consequences. For example, where actions taken to meet the environmental objectives set under the Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 (WFD Regulations) could inadvertently contribute to spread of INNS (Box 10.2).

Box 10.2. The connectivity conundrum: managing biosecurity risks while restoring hydrology in rivers

Physical habitat modifications are classified as one of the largest single issues preventing the achievement of Good Ecological Status of water bodies in England.³³⁵ Physical barriers such as weirs are one of the leading causes of physical habitat modifications. Defra has committed to ensuring that physical modifications that no longer serve a wider purpose and may cause harm to the water environment are mitigated or removed.³⁶

The removal of artificial barriers can improve waterway connectivity, benefitting native freshwater species and restoring degraded ecosystems. However, increased connectivity may also facilitate the spread of INNS such as signal crayfish, predatory fish, or weeds into previously inaccessible areas. Large-scale removals of barriers have led to the spread of invasive fish and plant species.⁷⁸³ A large programme of barrier removals in England is anticipated to present similar risks.

It is unclear whether this risk is being addressed in a coherent way under the current regulatory framework. For example, the WFD Regulations classification system only identifies INNS as a pressure for surface waterbodies that are not designated as artificial or heavily modified and where the objective is ‘High’ ecological status rather than ‘Good’.³¹⁶ This only applies to a small percentage of waterbodies and so will not act as a driver for action to manage INNS in most waterbodies.

Government has opportunities to improve progress but simply doing more of the same will only deliver incremental improvements. A game changer is urgently needed to improve the prospects of meeting INNS targets. A more systematic risk-based programme of surveillance is vital along with an expanded NNSI that has legal authority equivalent to that for animal and plant health. Together these could be the drivers of the change needed to deliver improvements at scale.

Recommendations for enhancing biosecurity

In our 2022/2023 progress report, we made four recommendations relating to the need for more resources and capacity, prioritising prevention actions and policy integration. There has been good progress on increasing the capacity of the NSSI and on integration of INNS with other biosecurity regimes. However, there was limited progress on increasing resourcing for prevention, early detection and rapid response and longer-term resourcing for local action groups. Therefore, these recommendations still stand.

In our 2023/2024 progress report we made two recommendations.

Government has accepted our recommendation to address the unnecessary delay regarding the public consultation on pathway action plans (PAPs). Progress has been good and consultation on PAPs has taken place.

Government has accepted our recommendation to publish an implementation plan for the GB INNS Strategy and published a 'Plan on a Page'. Progress during the annual reporting period has been mixed as the level of detail it provides means it falls short of being an implementation plan as outlined in the GB INNS Strategy. Therefore, this recommendation still stands.

This year we focus on surveillance and the NSSI. These actions if implemented together would make a greater contribution to improving progress and prospects of meeting the target to reduce the number of introductions and establishments of INNS by at least 50% by 2030 compared to 2000.

Recommendation 1: To deliver the scale of improvements needed to reduce the number of introductions, establishments and impacts of INNS, government should develop and implement a more systematic risk-based programme of surveillance.

Recommendation 2: Government should strengthen prevention of introductions and establishments of INNS by expanding the size of the Non-native Species Inspectorate and giving it the legal powers equivalent to those for animal and plant health.



Chapter 11:

Enhancing beauty, heritage and engagement with the natural environment

Chapter 11: Enhancing beauty, heritage and engagement with the natural environment



11.1. Summary assessment

Government's ambition is to bring people and nature closer together for the benefit of both. This can underpin the behaviour change needed to achieve other EIP goals and contribute to other government missions.

Engagement with nature amongst adults and children has decreased and is very low compared to other countries. This is particularly concerning given the current crisis in childhood vulnerability, and the importance of a connection with nature for a strong start in life.

Progress is mixed on ensuring that the push for house building and infrastructure development also helps improve access to good quality local environments. The Green Infrastructure Framework and a new Nature Towns and Cities programme have had some early influence. However, other key policies such as the Nature Restoration Fund and the Land Use Framework are still in development.

Protected Landscapes have a key role to play but their legal, policy and governance context is in transition, with questions about the adequacy of their powers and resources. An overall strategy for enhancing engagement with nature is lacking. While there are good place-based examples of joined-up delivery, the prospects of these being scaled up are unclear.

Further development of geospatial indicators provides an opportunity to improve the design, delivery and monitoring of progress. The multiple synergies with government missions relating to health, education and prosperity are an opportunity to make better use of a wider range of policy levers to deliver improvements.

Table 11.1. Enhancing beauty, heritage and engagement with the natural environment – summary assessment

Past trends	There is a gap between expectations and perceived quality of local green spaces. Frequency of visits to nature and pro-environmental behaviours are mostly decreasing.	Deteriorating trends dominate
Progress in the reporting period	New policies are in development to take a strategic approach to delivering nature improvements alongside new homes and infrastructure. Some progress has been made on strengthening Protected Landscapes but there is limited progress on policies relating to health and education.	Mixed
Overall prospects of meeting ambitions, targets and commitments	Urbanisation and house building targets may threaten prospects of achieving a 15-minute walk to green or blue space for everyone. Protected Landscapes have significant potential but will only be effective if they have adequate powers and resources. There is good multi-sector work on the evidence base for nature engagement, but this is lacking at a strategic level.	Partially on track
Robustness	New indicators have strengthened the available evidence base but they do not yet give a full picture of the achievability of the 15-minute commitment. We have used the underlying evidence in our assessment of specific policies.	

11.2. Context and commitments

The original aim set out in the 25 Year Environment Plan, and reiterated in the Environmental Improvement Plan 2023 (EIP23), is to ‘conserve and enhance the beauty of the natural environment and make sure it can be enjoyed, used by and cared for by everyone’.^{36,162} This is a big task given that the UK is one of the most nature depleted countries in the world and has one of the lowest rates of nature connectedness.³

The EIP23 targets and commitments include working with government and other actors on green and blue space, completing walking trails, and conserving the characteristics of landscapes. We focus on the measurable commitment that everyone should live within a 15-minute walk of green or blue space. There is also the broader commitment to enhance the natural, geological and cultural diversity of landscapes for the benefit and enjoyment of future generations. We structure our assessment around three themes of access, enhancement, and engagement. Achieving the overall aim and vision for this goal requires good progress on all three.

In 2024, the Labour manifesto included improving access to nature and creating nine new river walks and three new national forests.¹²⁰ Since being elected, government has restated these pledges in response to a written parliamentary question about whether this goal’s commitments would be retained during the rapid review of the EIP. Two of the government’s five missions – ‘an NHS fit for the future’ and ‘break down barriers to opportunity’ – are led by health and education departments respectively but stand to gain significantly from policies in this goal.

In April 2025, Natural England signalled its strategic direction for the next five years, noting priority areas for action relevant to this goal such as making it easier for landowners to get permission for large-scale nature recovery projects, partnering with planners and developers and introducing strategic solutions for development to protect and restore nature, shaping better places for people to live and work using spatial plans for nature, and connecting communities with nature to gain health benefits.⁷⁸⁵ These action areas, and many others, are intended to deliver four strategic outcomes (nature recovery, building better places, improving health and wellbeing, delivering security through nature) that are part of this EIP goal’s aim.⁷⁸⁶

11.3. Key environmental trends

Access

In the previous annual reporting period, government published a new indicator for access to green space. In the current reporting period, the methodology for that indicator has been updated. This has led to some changes in the total number of households estimated to live within a 15-minute walk of green space.⁷⁸⁷

The ‘neighbourhood standard’ – used by Natural England and the Green Infrastructure Framework to show how many households live within a 15-minute walk (1km) of a 10 hectare green space – declined from 53% to 33%. Two other scenarios, ‘all green space’ and ‘all green space including rights of way’, which measures access to a two hectare size green space, increased from 78% to 87% and 91% to 93% respectively.

In September 2025, government published an access to blue space indicator, which estimates the percentage of households that are within a 15-minute walk of water environments that provide health and wellbeing benefits. That is, they can be walked along, not necessarily entered.⁷⁸⁸ This is the first time such an indicator for blue space in England has been developed using a standardised methodology.

The three scenarios developed show there is a significant difference, depending on the size of blue space considered and the length of waterside path included. The most generous ‘all blue space’ scenario, which includes relatively small blue spaces and waterside paths of any length, reaches 86% of households. The other two scenarios’ use of a more substantial size blue space and path length (with a slight variation in access points) only reaches 28% of households. As with the green space indicator, there are differences between rural and urban households in each scenario. Rural areas have the lowest percentage of households (21%) within a 15-minute walk of substantial blue spaces, compared to 30% of urban households.

Government intends to continue the development of these scenarios to produce a combined access to green and blue space indicator. The work to-date, and a future combined indicator, can help track progress towards the 15-minute commitment as well as inform policy design and targeting.

All the scenarios included in these green and blue space indicators describe how many households live within 1km, or less. The same underlying spatial data sets could be used to describe and identify locations where households live further away than this and by how far. This would give a fuller sense of how achievable the 15-minute commitment is, by when, and what sorts of interventions are needed and where.

Enhancement

There is still a gap between people’s perceptions of the quality of their local green and natural spaces, and their expectations of what those spaces should provide; for example, being good places for mental health and wellbeing, of a high enough standard that they want to spend time there and providing opportunities to see nature.⁷⁸⁹ The criteria used to measure these expectations are taken from the Green Flag Award, which is part of the Green Infrastructure Framework. During the 2024 to 2025 period, 2,250 parks and green spaces across the UK were awarded the Green Flag for meeting these, and other, criteria.⁷⁹⁰ This is a similar number to the previous year (2,227).⁷⁹¹

Beyond parks and local green spaces, changes to the attributes of larger landscapes and waterscapes are monitored using Natural England’s 159 National Character Areas (NCAs) and a composite indicator describing the various environmental benefits and opportunities they provide. During the 2015 to 2019 period, 34% of NCAs were declining, 6% showed little or no change, and 60% were improving. These proportions were slightly better for NCAs that are within Protected Landscapes, where 30% were declining, 4% showed little or no change and 66% were improving.⁷⁹²

The landscape and waterscape character indicator is due to be updated in 2026, to cover the period 2019 to 2025. It will be an important monitoring tool for this goal’s overall vision and commitment regarding multi-functional landscapes, and as a way of seeing how key policies such as protected landscapes and agri-environment schemes are contributing.

Some of the indicators used in Chapter 2, that have more recent data, to describe improvements to nature on land are moving in a positive direction. These can be taken to be partially indicative of improvements to landscape character, although only covering biodiversity aspects such as wildlife rich habitat, tree cover, and area of land protected or in agri-environment schemes.

Engagement

Natural England's People and Nature Survey provides data on the frequency of visits to green and natural spaces by adults and children. For adults, the most recent figures show that 68% are visiting at least once a week over the past 12 months, which is a 5% decrease from the baseline in 2020/21 ([Figure 11.1](#)).^{793,794}

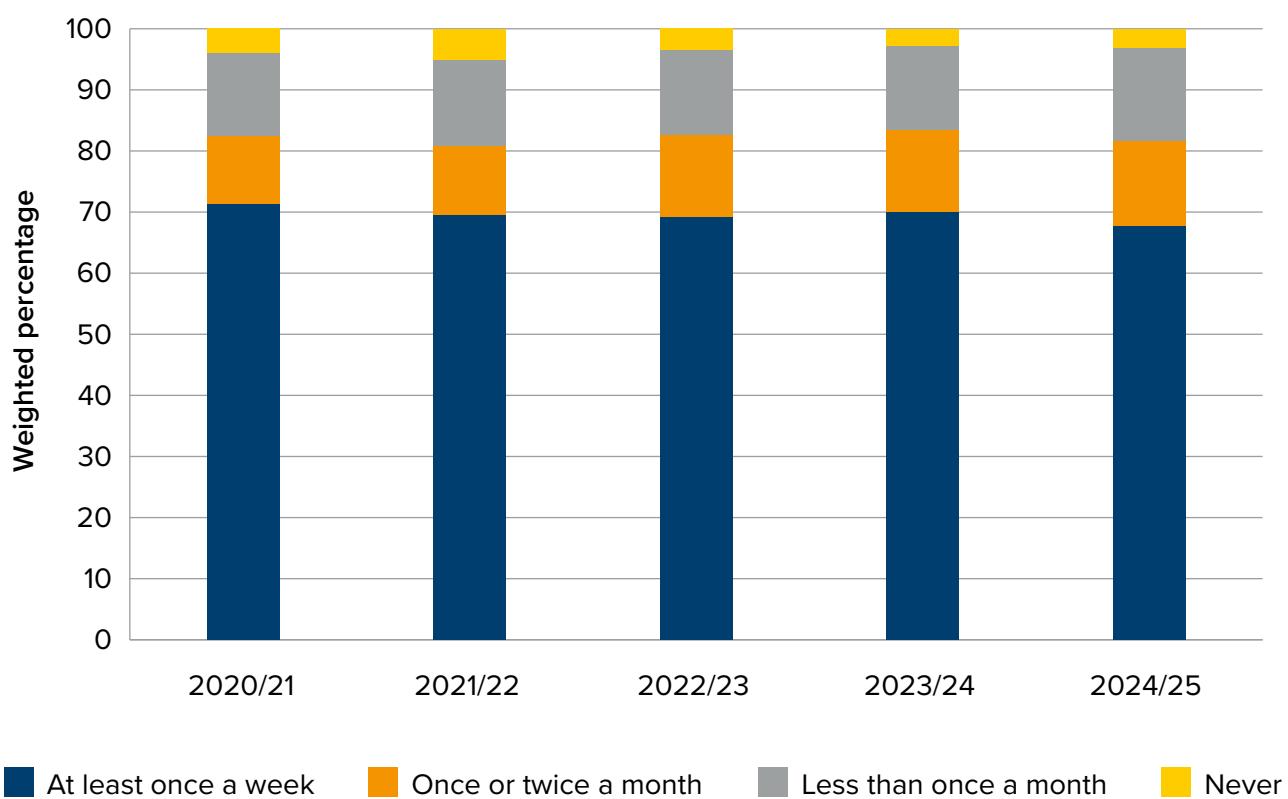


Figure 11.1. Frequency of visits to green and natural space by adults, 2021-2025.

To complement this average over a 12-month period, other indicators extrapolate from questions about visits over a recent 14-day period (giving them stronger validity in terms of respondents' recall accuracy). They show that although the proportion of adults visiting in the past 14 days is increasing, the total number of visits has decreased, suggesting that more people are visiting but less often.⁷⁹⁴

[Figure 11.2](#) shows that between 2021 and 2024, the number of children spending time outside every day – whether during school term (inside school) or during school holidays (outside school) – has gone down. Even taken together with the numbers of children reporting spending time outside 'most days', there is still a downward trend. This is particularly concerning given the post-pandemic worsening of childhood vulnerability indicators (such as poverty, mental health and educational attainment) and the growing unmet demand for children's health services.⁷⁹⁵⁻⁷⁹⁷

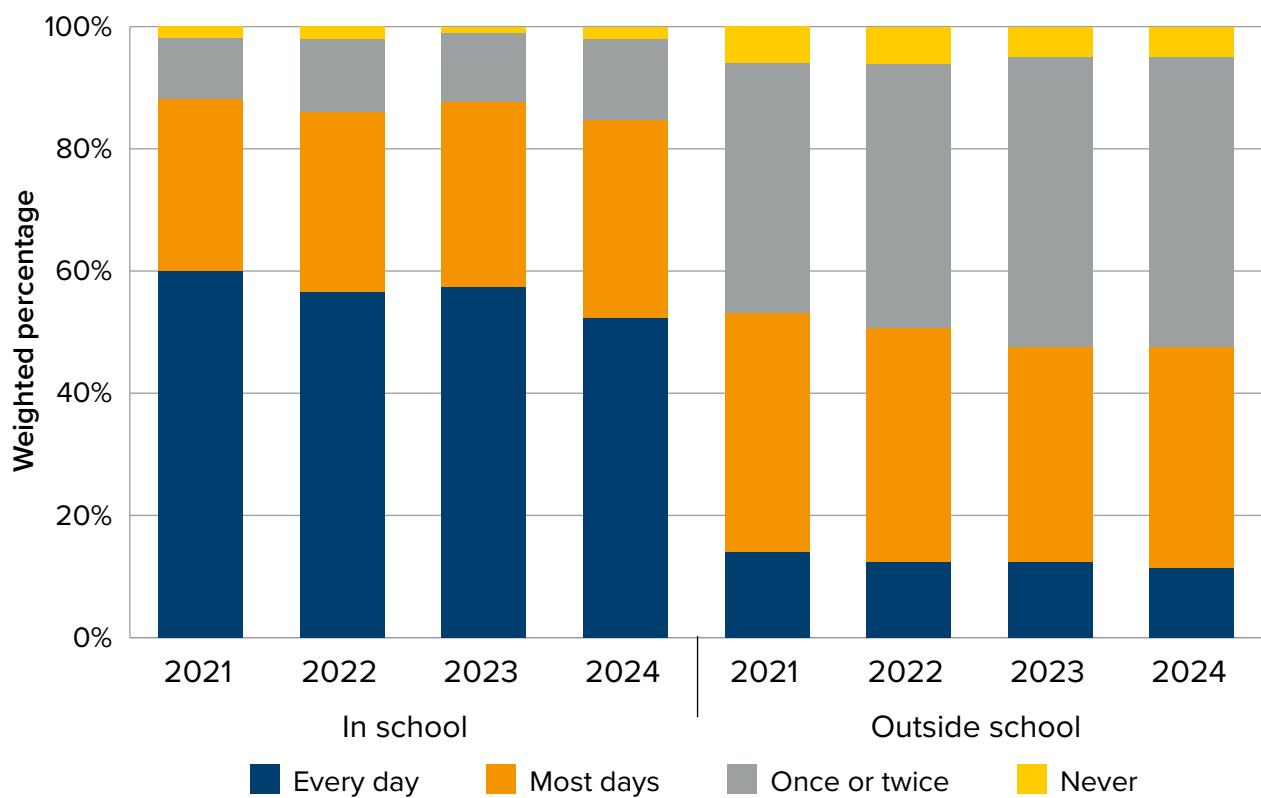


Figure 11.2. Frequency of time spent outside in the past week by children in school and outside of school, 2020-2024.

In addition to spending time in nature, another measure of engagement is the prevalence of pro-environment behaviours as part of daily life and volunteer time spent on the natural environment. Between 2020/21 and 2024/25 adults scores on an index of pro-environment behaviour (such as composting, recycling, and consumption habits) have seen little or no change whereas the scores for children over a similar timeframe and index have decreased.⁷⁹⁸ However, since the 2000 baseline, by 2022 volunteering time spent on the natural environment had increased by 36% even accounting for a sharp decline because of COVID-19 restrictions.⁷⁹⁹

Table 11.2. Enhancing beauty, heritage and engagement with the natural environment – summary assessment of key trends

Indicator	Indicator trend	Trend time period
Percentage of the total population in England living within 15-minutes' walk of green space, as of 2024	—	N/A
Changes in landscape and waterscape character	—	2015–2019
Visits to green and natural spaces at least once per week by adults	⬇	2021-2025
Time spent outside every day or most days by children during school term	⬇	2020-2024
Time spent outside every day or most days week by children during school holidays	⬇	2020-2024
Pro-environmental behaviours of adults	→	2021-2025
Pro-environmental behaviours of children	⬇	2020-2024

11.4. Progress towards ambitions, targets and commitments

Access

There are a range of policies that can improve the physical accessibility of the natural environment. These include making space for nature in urban areas and designating areas for protection and public access in rural areas. There has been some good and some mixed progress on both.

In an urban context, the biggest action reported in the Annual Progress Report 2025 (APR 2025) is the launch of the Nature Towns and Cities programme in October 2024.⁴⁹ Some of the tools and guidance provided through this programme make use of spatial data to help target delivery – for example, for community forests – in a way that redresses nature inequity and improves access. Physical projects, such as establishing community forests, in the right places can go a long way towards improving access to nature.

Interventions in the physical environment need to be complemented by an understanding of the social and cultural barriers to accessing nature. During the annual reporting period, Natural England published findings from a community research project (see Box 11.1). This identified barriers such as diverse needs and purposes for visiting, past experiences and feelings of inclusion in local communities. Other barriers are awareness and availability of green spaces that are well-maintained and have the required infrastructure.⁸⁰⁰ Such considerations need to be embedded in the early stages of urban planning as well as in

how urban green spaces are managed and maintained. As local authorities' resources for such management are cut, barriers to access are worsened.

The National Planning Policy Framework (NPPF) includes numerous references to the importance of access to open spaces for recreation and to Local Green Spaces. The NPPF was updated in December 2024, introducing Golden Rules for developing on the Green Belt, one of which is to ensure residents can 'access good quality green spaces within a short walk of their home'.²¹ These updates provide greater coherence between access to the environment and planning objectives at a national level. However, they are a small safeguard within wider reforms that compel local planning authorities to use Green Belt land to meet their housing targets if other options are not available.

Another example from the annual reporting period is the New Towns Taskforce that began meeting in September 2024. This is developing a code that includes access to nature and tree-lined streets.⁸⁰¹ How these considerations are balanced alongside the many other priorities in the NPPF, and the New Towns Code, remains to be seen.

The 25 Year Environment Plan and the EIP23 included a commitment to make the King Charles III England Coast Path fully walkable by the end of 2024. Because of how progress is reported it is not possible to see how much of the path was completed (or got underway), during the current reporting period. At the end of the annual reporting period over 1,469 miles were complete, and work was underway on a further 941 miles, leaving approximately 283 miles still to go. The intended deadline for completion has therefore been extended to spring 2026.

There has been no update on progress with the nine new National River Walks that the government promised. In response to a parliamentary question in September about progress with the new walks, it was stated that they are a priority for Defra and delivery options are being considered.⁸⁰² These new walks have the potential to significantly increase the number of households that live within a 15-minute walk of green or blue space, particularly if they are informed by the mapping work of the associated indicators that show where there is least access.

Natural England's Agri-environment Evidence Annual Report found that 43% of all permissive access options established under previous agri-environment schemes had been closed by the time of writing. The rest remain open on a voluntary basis.¹⁵⁷ To try to reverse this trend, new public access options became available through Environmental Land Management incentives in 2024. However, at the time there was limited detail on how they would be targeted, publicised, and informed by expert advice.⁸⁰³

During the annual reporting period, a previously set cut-off date of 2031 for registering historic rights of way was scrapped. If all the estimated 40,000 miles are eventually registered and protected, this could make a substantial contribution to improving access to nature.⁸⁰⁴

Enhancement

As part of its longstanding work to create a Nature Recovery Network that spans England, Natural England has continued to progress delivery of 12 large-scale nature recovery projects that together cover 319,480 hectares. Following the Lawton Principles of 'more, bigger, better, joined up', these projects aim to enhance nature on land to address multiple crises of biodiversity loss, climate change and public health. The protections and enhancements they provide contribute to many EIP23 targets and commitments. Although

one of those commitments was to establish a total of 25 nature recovery projects by 2025 and at the time of writing the count remains at 12.⁸⁰⁵ It also unclear how this network aligns with other policies such as Local Nature Recovery Strategies.⁶⁶

Protected Landscapes provides one of the biggest policy levers for conserving and enhancing the quality and diversity of landscapes for future generations. In the previous annual reporting period, a new targets and outcomes framework was introduced, which has continued to inform the implementation work of the Protected Landscapes Partnerships.⁸⁰⁶ The first progress report on the targets and outcomes framework contains case studies of how protected landscapes have contributed towards nature's recovery, climate adaptation and mitigation, increasing access to nature and conserving heritage.⁹¹

Additionally, new statutory guidance was published for relevant bodies to ensure compliance with the Protected Landscapes Duty; a requirement that they 'seek to further' the purposes of protected landscapes rather than just have regard to them.⁸⁰⁷ In December 2024, to mark the 75th anniversary of the original legislation that created Protected Landscapes, government announced its intention to bring forward new legislation to strengthen their powers and reform governance arrangements to enable 'success, innovation and collaboration'.⁹⁰

Similar to Protected Landscapes, Natural England's newly designated National Nature Reserves have introduced protections for things such as ancient woodlands, a rare temperate rainforest, and rare fossils.⁸⁰⁸⁻⁸¹⁰

Agri-environment schemes are another key policy lever. Recently published evaluation evidence showed they have made a significant contribution to protecting the historic and natural environment. They have done this through maintenance of traditional farm buildings and management of Geological Sites of Special Scientific Interest.¹⁵⁷ These sorts of capital investment improvements have also been delivered through the Farming in Protected Landscapes programme, which has been extended into 2026, with a further £30 million being committed.⁸¹¹

The Nature Towns and Cities programme is a partnership between the National Lottery Heritage Fund, the National Trust, and Natural England to award £15 million of grants to 'support local authorities and community partners across the UK to put natural heritage and green infrastructure at the heart of their plans, priorities and investment'.⁸¹² During the annual reporting period, applications for grants were received and an accreditation scheme was piloted. This could be a sorely needed injection of resources, as local authorities continue to struggle to maintain and develop urban green spaces.

The Nature Towns and Cities programme alone will not be enough to protect and enhance urban nature for generations to come. It must work in conjunction with other long-term policies and priorities, many of which are outside of Defra's remit and are the responsibility of Ministry for Housing Communities and Local Government and Department for Culture, Media and Sport. This multi-department inter-dependency is demonstrated by correspondence from the then Defra minister to a House of Commons Committee inquiry into urban green spaces, describing a reliance on local authority funding and the planning system.⁸¹³

The Green Infrastructure Framework provides a lot of useful guidance, tools and support for enhancing nature in urban areas. During the annual reporting period there have been updates to the framework's tool for calculating environmental benefits and to numerous layers available in the mapping tool. There is also a fuller process guide for local authorities

to embed nature into local strategies and projects.⁸¹⁴ There is good evidence that it has already influenced some local plans. In addition, there have been positive efforts to monitor, evaluate and develop the framework through engagement with practitioners and experts.⁸¹⁵ The Green Infrastructure Framework has the potential to be influential at multiple scales, from the national to the local. However, it must be effectively combined with other frameworks and policies, such as Local Nature Recovery Strategies and Local Plans, to deliver enhancements for nature alongside other social and economic benefits.

Last year, in our 2023/2024 progress report, and in our response to the consultation on the NPPF, we recommended making green infrastructure a material consideration under national planning guidance. The update to the NPPF concerning new Golden Rules for developing on Green Belt land requires consideration of three Green Infrastructure standards – accessible green space, urban greening, and the Green Flag Award criteria, but only where no locally specific standards exist.

Engagement

Helping people foster a connection with nature in general, with the country's diverse landscapes, and with their local green and blue spaces, is a core aim of this EIP goal area. It is intended to strengthen pro-environmental attitudes and behaviours that lead people now, and in the future, to enjoy, protect and enhance nature.

There is limited information about government communications and public engagement on environmental issues and how they are helping to strengthen people's engagement with nature and improve key indicators such as frequency of visits/time spent outside, and the pro-environmental behaviours index. Although there are specific good examples, such as during Black History Month in October 2024, Natural England shared updates from various projects that celebrate the cultural heritage and connections with nature that communities of colour have.⁸¹⁶

The APR 2025 mentions work undertaken by the Protected Landscapes Partnerships to diversify the sector and remove barriers to access. This is part of ongoing work by government to widen the reach and strengthen the benefits of protected landscapes. The new targets and outcomes framework for protected landscapes includes a specific target to improve and promote accessibility and engagement using established metrics. More detail is provided in the Protected Landscapes Targets and Outcomes Framework Progress Report for 2023 to 2025. However, this is limited to a single metric of the length of National Trails and one illustrative case study of actions to improve access.⁸⁰⁶

A second phase of the Generation Green programme ran over the course of the annual reporting period.⁸¹⁷ Targeted at young people from disadvantaged areas and of a minority ethnicity, Generation Green's four intended outcomes are critical to this goal. They are increasing and enhancing opportunities for young people to engage with nature, widening access to and engagement with protected landscapes and sites, boosting nature connectedness, and enabling young people to gain wellbeing benefits from accessing the natural environment. The impact report shows the programme outperformed its targeted reach and generated significant benefits for participants. Of these, 38% said it was their first visit to the countryside and 87% said they wanted to visit a Protected Landscape again.⁸¹⁸

For school-age children, policies held by the Department for Education (DfE), or involving collaboration between the education sector and Defra Group, are vital. For example, the recently published summary of agri-environment scheme evaluation evidence highlights

this join-up as an area for improvement that would increase the uptake and impacts of educational visits to farms and the countryside.¹⁵⁷ It was intended that an educational access option should be added to the Sustainable Farming Incentive in 2024, but this has not happened. However, it remains available in higher tiers. This means funding and support for educational visits is not available to most farmers.⁸¹⁹

The National Education Nature Park encourages educational settings to upload their natural spaces to a map and make use of various resources to enhance those spaces and make the most of them.⁸²⁰ Between August 2024 and August 2025, a further 1000 hectares of sites were added. This is a big increase from the first year of the policy but is still a small proportion of the whole educational estate.

However, this policy is less about making a large contribution to the habitats and species targets, than upskilling staff, supporting school-level environment work and, most importantly, engaging school children in nature – many of whom do not have access to green spaces or spend time outside when not in school. Children who engage through this policy can earn credits towards DfE's Climate Leaders Award, which is intended to combat the declining time spent outdoors and feelings of connection with nature that happens as children get older.⁸²¹

In March 2025, government confirmed it would continue with the development of a new natural history GCSE. Public consultations from DfE are anticipated for autumn 2025.⁸²²

The use of engagement with the natural environment to improve health and wellbeing has been supported through government's social prescribing policy. This empowers health care providers and users to access nature-based interventions. During the annual reporting period, the national-level evaluation of green social prescribing was published, presenting evidence of the positive impacts the programme had on preventing and managing mental ill-health.⁸²³ The study also addressed how to scale up the policy and further embed it in health services. This learning has strengthened the credibility of the policy, which ran a second phase between April 2024 and March 2025. It included an emphasis on spatial targeting to improve uptake and gathering data for a value for money evaluation.

Box 11.1. Doorstep to Landscape: improving access, enhancement, and engagement in Birmingham

We have repeatedly emphasised the need for policy targeting and implementation to be informed by spatial and socio-economic data. Natural England's Doorstep to Landscape project in Birmingham is an illustrative case study of how effective this can be, and how all three strands of this EIP goal area – access, enhancement and engagement – can be woven together to produce multiple benefits.⁸²⁴

Some areas within Birmingham have relevant intersecting issues, including demographic diversity, deprivation, and low levels of access to nature. Simply dealing with physical barriers to access, such as footpaths and opening times, is not enough. Social and cultural barriers, such as inclusivity and past experiences, also need to be addressed. Community-based research, published in 2024, explored these barriers and recommended solutions and is informing the project's approach of empowering local communities. This includes supporting people to reimagine their engagement with their local environments and providing stepping stones that get people out into their local green spaces initially, and then on to bigger landscapes and longer-term engagement with nature.

Box 11.1. Doorstep to Landscape: improving access, enhancement, and engagement in Birmingham (cont.)

This research has been used to prioritise locations and actions within the long-term Birmingham City of Nature Plan 2022-2047.⁸²⁵ It has also helped inform the vision of the Local Nature Recovery Strategy for the region, incorporating considerations of values and overcoming social barriers.⁸²⁶ The Sustainable Development Team continues to work with Birmingham City Council on developing their local plan, and on high opportunity casework to actively address social and cultural barriers alongside physical access. These ongoing influences will be bolstered by Birmingham recently becoming the first accredited Nature City under the new Nature Towns and Cities Programme.

There are still opportunities for further influence and join-up, particularly with the health sector. Doorstep to Landscape continues to encourage GPs and other health care professionals to make greater use of green social prescribing. Similarly, the project has raised awareness of the health benefits of nature among community organisations and leaders. It works with them to provide tailored activities, such as nature walks and urban gardening, particularly in areas with severe health deprivations and inequalities.

One of the main benefits of this sort of community-led research and practice is that it enables local organisations and leaders to understand, contextualise, and overcome the unique social barriers within their local communities. Findings from this project – and ongoing secondary research in partnership with the University of Birmingham's Centre for Urban Wellbeing – are being used to equip local organisations with the knowledge and skills to develop inclusive projects. These projects nourish a connection with nature, produce health and wellbeing benefits, and enhance the quality of local green spaces.

Table 11.3. Enhancing beauty, heritage and engagement with the natural environment – summary assessment of progress over the annual reporting period towards meeting targets and other commitments

Targets and commitments (EIP23 unless otherwise indicated)	Progress
Everyone should live within 15 minutes' walk of a green or blue space.	Mixed
Conserve and enhance the natural, geological and cultural diversity of our landscapes, and protect our historic and natural environment for the benefit and enjoyment of future generations.	Good

11.5. Prospects of meeting ambitions, targets and commitments

Access

The commitment that everyone should live within a 15-minute walk of green or blue space has no date attached to it. It is therefore not possible to bound an assessment of the prospects of it being achieved by reference to a timeframe. In absolute terms, it is theoretically and practically possible to achieve the target. The scenarios included in the access to green and blue space indicators recently developed by government show which factors affect coverage. Once combined, they can be used to show which parts of the country need the most interventions, as well as monitor progress and assess prospects.

However, there is no clear description of what the key pressures or policy solutions are for this commitment, or how they relate to the indicators. It is possible that many long-term and future environmental and economic pressures will affect the prospects of achieving this commitment. For example, persistent long-term trends such as urbanisation and demands for housing have contributed to a loss of urban green space between 2001 and 2018.⁸²⁷ They will continue to pose challenges for ensuring all households – current and future ones – are close to nature.

National and local planning systems are a key policy solution, but they are underperforming for nature as it is an easily outweighed consideration rather than a mandatory factor with clear links to a target or outcome. For example, the guidance on developing Local Nature Recovery Strategies is that they 'should' help identify and prioritise areas where interventions can improve access to nature. Similarly, even once published, they will be one material consideration amongst many and potentially easily sidelined in planning decisions at a time when the priority is on meeting house building targets.⁸²⁸

The Planning and Infrastructure Bill introduced Environmental Delivery Plans (EDP) to set out strategic conservation measures (funded by a new Nature Restoration Fund) to compensate for the on-site harms of developments.⁸²⁹ Some of these measures could be delivered off-site, if they deliver more for the improvement of the conservation status of that feature than on-site measures would. As recent Parliamentary amendments and debates around the Bill have shown, this could have significant consequences for access to green and blue spaces. It may lead to calls for stronger legal duties to ensure proximity to nature doesn't become a nice-to-have that follows existing patterns of inequality.⁸³⁰

It is anticipated that upcoming EDPs will include a focus on access to nature, helping to direct improvements where they are needed most. This is a potentially impactful, and spatially targeted, policy lever. However, it also raises the fundamental question as to whether off-site improvements can ever fully compensate for locally specific harms. In other words, whether the use of offsetting policies – such as Biodiversity Net Gain and the Nature Restoration Fund – is compatible with universal commitments such as everyone living within 15 minutes of green or blue spaces. These issues should be addressed in government's application of the Environmental Principles Policy Statement to EDPs.⁸³¹

To better assess progress and the prospects of meeting the 15-minute commitment, it needs to be made more measurable. This includes having a timeframe, a clear definition of what counts (along with an associated indicator that is regularly updated), identification of the key policies required to deliver it, and an appreciation of the wider factors and policies that enable or hinder its achievement.

Enhancement

There is a positive movement towards more credible and coherent policies and governance for Protected Landscapes. This year saw the promise of new legislation to empower Protected Landscapes, strengthen their mandate to recover nature, and to reform their governance. Government also published guidance on complying with a new stronger statutory duty on relevant bodies to 'seek to further' the purposes of the landscapes they operate in. However, we note that no regulations have been made yet to set out how authorities are to comply with the duty. This legal duty could be an important lever for achieving the Protected Landscapes Targets and Outcomes introduced in the previous reporting period. The first Progress Report shows some improvements in various indicators

of landscape quality and diversity, but some indicators are missing data and although there are some insightful case studies there is not enough evidence to know how impactful the legal duty and other powers and governance factors are, or could be.⁹¹

The prospects for better environmental outcomes from protected landscapes may be partially hindered by long running, and recently worsening, constraints on resources. Over the last 14 years national parks have lost 40% of their budget in real terms. They are facing a further 12% reduction due to increasing costs and the ending of ‘sticking plaster’ funding.⁸³² In March 2025, the government confirmed a further 9% reduction in core funding for the 2025/26 financial year.⁸³³ This comes despite a call for more resources and powers in the Great National Parks Plan, which makes the case for their potential contributions to several government missions and priorities, including improving health, driving economic growth, and tackling climate and nature crises.⁸³⁴ Some National Parks have demonstrated their ability to leverage private finance to scale-up and speed-up investment in nature recovery but this capacity will vary across National Parks and even more so across National Landscapes.⁸³⁵

In an urban setting, the relatively short-term target to build 1.5 million homes during this parliament will increase the pressures of urbanisation on the natural environment. The continued roll-out of the Green Infrastructure Framework, Local Nature Recovery Strategies, and new guidance for planners on nature-based solutions will go some way towards protecting and enhancing green and blue spaces.⁸³⁶ However, enhancing urban green spaces is just one consideration among many, and without any mandatory obligation to act on it. If the Nature Towns and Cities Programme achieves its long-term aims (see Box 11.2) that will also help – but the most efficient way to do this is through join-up with the planning sector from the outset rather than remediating harms after the fact.

Box 11.2. Long-term aims of the Nature Towns and Cities Programme by 2035

- Connect five million more people with nature close to home
- Transform 100 towns and cities through better natural environments
- Help one million more children access nature-rich spaces
- Support 1,000 communities in taking climate action
- Ensure 30% of urban green space is managed for nature

A potentially positive example of integrating nature-based outcomes with planning is the inclusion of a community ‘right to buy’ power in the Devolution and Community Empowerment Bill. This requires local authorities to maintain a list of land assets that are or could be of value to the local community for cultural, recreational, or sporting interests – as well as processes for taking ownership of them.⁸³⁷ If this power is part of the final legislation, and in practice is used to protect and enhance valuable green spaces for communities, then this could become an important legal tool.

With regard to maintaining and enhancing existing natural assets, the announcement that Keep Britain Tidy will continue to support and award the Green Flag standard is positive.⁸³⁸ However, as the public parks inquiry demonstrated, local authorities look set to face continuing resourcing struggles that undermine their ability to maintain such high standards. This is also an issue for green infrastructure, where long-term management plans are often

absent and the management authorities lack the resources required to maintain newly established assets.

Parliamentary scrutiny and contributions will be vital for ensuring upcoming legislation is as strong as possible. There are signs that this will be the case. For example, a Private Members' Bill on green spaces had a second reading in March 2025 and is due to be revisited in the autumn.⁸³⁹ It contains valuable suggestions for defining green spaces, their independent oversight, and their enhancement and protection by government and local communities.

Engagement

The flagship 10 Year Health Plan for England, which sets the political and strategic direction for the sector, does not mention the health benefits of nature, or how to include them in a more localised health service offer.⁸⁴⁰ This is a missed opportunity for strategic influence, and for providing greater coherence with the health service system – which was a key recommendation of the green social prescribing evaluation.⁸²³ For example, the flagship policy of a 'neighbourhood health service', takes a place-based approach to offering services through neighbourhood health centres, but does not refer to the potential benefits of local green and blue spaces.

Nature is not yet featuring prominently in national health strategy and policy, but there is a lot of good research and evidence work involving health and environment sectors that can improve join-up at delivery level. For example, the Department for Health and Social Care commissioned four clinical research studies of green social prescribing benefits. Meanwhile, the Office for Health Improvement and Disparities are involved in a partnership with Natural England to develop a common framework for measuring the health benefits of nature.⁸⁴¹

There is opportunity to improve synergies between the environment sector and others – such as health and education – through a common understanding of five pathways to a stronger connection with nature, including: sense, beauty, emotion, meaning and compassion. These are being used to inform various Defra Group nature engagement projects and research.^{842,843} Furthermore, Natural England have partnered with an academic research programme to undertake a longitudinal study of the co-benefits for people and wildlife using a people-in-nature approach to biodiversity renewal.⁸⁴⁴ This could provide valuable evidence, and policy insights, on the fundamental synergy between nature engagement and pro-environment behaviours that help recover biodiversity.

Table 11.4. Enhancing beauty, heritage and engagement with the natural environment – summary assessment of prospects of meeting targets and other commitments

Targets and commitments (EIP23 unless otherwise indicated)	Prospects
Everyone should live within 15 minutes' walk of a green or blue space.	Partially on track
Conserve and enhance the natural, geological and cultural diversity of our landscapes, and protect our historic and natural environment for the benefit and enjoyment of future generations.	Partially on track

11.6. Opportunities for improvement

Strengthening access to and engagement with nature has multiple synergies with other government priorities, such as redressing health inequalities and ensuring a strong start in life for young people. Many opportunities for combining policy agendas to maximise benefits are still unrealised.

Perhaps the biggest opportunity for improvement currently is a stronger integration of the vision, commitments and policies of this EIP goal area with government's ambitions on building homes, addressing inequalities, and guiding land-use decisions. For example, the Green Infrastructure Framework and 15-minute commitment should be used to influence planning decisions, ideally through mandatory requirements as has been done for Biodiversity Net Gain. This would mean the built environment is developed in a way that protects and enhances the benefits nature provides to local communities – such as climate resilience, reduced risk of hazards, and improved living standards and quality of life.

Delivering the commitments of this EIP goal area requires spatial data for monitoring progress and delivering policies. Defra is already demonstrating good development of such data through things like the Green Infrastructure maps, the changes in landscape character atlas, and the new access to green and blue space indicators. We would like to see examples of greater use of these resources in policy design and delivery – for example for agri-environment schemes, Local Nature Recovery Strategies and Local Plans. This could be made more transparent in policy publications, evaluations and progress reporting. There is also a significant opportunity to ensure this spatial evidence is used to drive cross-government efforts through initiatives like the Land Use Framework and the Geospatial Commission.

Making progress towards the vision, targets and commitments of this goal area will produce multiple benefits for other government missions and departments' priorities. There is ample research and evidence to substantiate this. There is an opportunity to demonstrate this value and better integrate this goal area with other areas of government activity. This could be done by making better use of policymaking processes that encourage cross-government working and policy coherence such as joint bids in spending reviews, shared strategies and outcomes, and cross-government forums.

Recommendations for enhancing beauty, heritage and engagement with the natural environment

In our 2022/2023 progress report, we made three recommendations relating to policy development and implementation and the evidence base. Progress to date has been either good or limited. These issues remain relevant and are reflected in subsequent recommendations.

In our 2023/2024 report we made three recommendations.

Government has partially accepted our recommendation to make the Green Infrastructure Framework a material consideration in planning. Progress during the annual reporting period has been good. Aspects of the Green Infrastructure Framework were further embedded into the National Planning Policy Framework.

Government has accepted our recommendation to use the access to green space indicator to direct interventions. Progress during the annual reporting period has been good. Government's response cites the example of its use in designating nine new National River Walks, although no information about this has been made public.

Government has accepted our recommendation to harness synergies between departments' objectives and minimise trade-offs between planning and access to nature priorities. Progress during the reporting year has been limited. There have been specific cross-department policies and delivery level collaborations but there is still a long way to go at the strategic level – particularly regarding engagement with nature in the health and education sectors. Therefore, this recommendation still stands.

This year we make one recommendation.

Recommendation 1: To inform a delivery plan and monitoring, and to provide a more influential target that can be integrated into other strategies and policies, government should specify a timeframe for achieving the commitment that everyone should live within a 15-minute walk of green or blue space.

Chapter 12:

EIP23 cross-cutting themes



Chapter 12: EIP23 cross-cutting themes



12.1. Introduction

The Environmental Improvement Plan 2023 (EIP23) identifies cross-cutting themes that are intended to tie together delivery across policy areas. These include nature-friendly farming, land use and planning, green finance, green jobs and skills, and green choices.

Each of these themes enables change in their own right as well as affecting the speed and scale of change more broadly. We have assessed selected themes because of their important contributions to ensuring nature's recovery. Here we focus on nature-friendly farming, green finance and green choices. Land use and planning is the focus of Chapter 13.

12.2. Nature-friendly farming

'Nature-friendly farming' is used in the EIP23 to describe a range of measures that ensure agricultural land is managed in a way that protects and improves the environment.³⁶ This includes agri-environment schemes (AES) such as Environmental Land Management (ELM), capital grants, and grant schemes such as Farming in Protected Landscapes (FiPL). Compliance with farming regulations and the adoption of voluntary codes of practice also play a role.

In our 2023/2024 progress report, our in-depth assessment focused on nature-friendly farming.²²⁰ We made a recommendation to improve the prospects of meeting EA21 targets by ensuring incentives are sufficient to deliver a significant increase in the uptake of the more environmentally ambitious higher-tier actions within Countryside Stewardship Higher Tier (CSHT) and Landscape Recovery schemes and by making full use of spatial prioritisation, farm advice and guidance. We also recommended action to significantly increase rates of compliance with farming regulations, to support government in reducing water pollution.

Box 12.1. Determining higher-tier and lower-tier type schemes

Higher-tier agri-environment schemes are intended to achieve greater biodiversity outcomes through actions supported by targeted advice and guidance. Lower-tier type schemes are simpler and intended to be universal providing untargeted and less ambitious environmental improvements which do not require specialist advice.

Within Environmental Land Management, our analysis identifies Sustainable Farming Incentive as a lower-tier scheme. Landscape Recovery projects are higher-tier schemes, and we expect the new Countryside Stewardship Higher Tier to be largely higher-tier type schemes.

Being part way through the agricultural transition means that legacy Environmental Stewardship and Countryside Stewardship schemes are still in operation. These are a combination of higher-tier and lower-tier.

We assess progress against key targets and commitments related to nature-friendly farming in [Chapter 2](#) and [Chapter 4](#), including towards the prospects of achieving both Environment Act 2021 (EA21) species abundance targets and the EA21 agriculture water target. Soil health is considered further in [Chapter 7](#). Strategic spatial prioritisation is a focus of [Chapter 13](#).

Here we assess progress across key delivery actions since the publication of government's updated agricultural transition plan.⁶¹⁸ In particular the uptake of higher-tier AES (such as CSHT) and wider grant schemes, the provision of local advice and spatial targeting of schemes. We also consider the risks of farming activities on the natural environment and the prospects of regulatory compliance reducing environmental impacts.

The uptake of agri-environment schemes

Overall progress towards the commitment in the EIP23 for 65–80% of landowners and farmers to adopt nature-friendly farming on at least 10–15% of their land by 2030 has been mixed (see [Chapter 2](#)). There has been further roll-out and expansion of ELM, although this has been accompanied by the challenges of an abrupt and temporary closure of the Sustainable Farming Incentive (SFI).⁸⁴⁵ While progress is in the right direction, it remains unclear to what extent this expansion of SFI will bring about environmental improvement.

While not directly comparable to the EIP23 commitment, Defra report that at the end of 2024 between 49% and 70% of farmland (the utilised agricultural area) was managed through AES agreements.⁵⁰ A range of values are used due to the complexity of AES data.

Statistics published by Defra show a consistent increase in the area of land managed under SFI agreements since launch ([Figure 12.1](#)).^{846,847} SFI is a lower-tier scheme intended to lead some farmers to more ambitious higher-tier schemes with greater environmental benefits. The area of land managed under the Environmental Stewardship Scheme: Entry Level Scheme and Higher Level Scheme will continue to decrease due to its closure to new applicants in 2014.¹⁵⁷ Some farmers and land managers will transition into ELM.¹⁵⁷ The fluctuation in the area of land managed under Countryside Stewardship can be attributed to its development and subsequent integration into the wider ELM scheme.

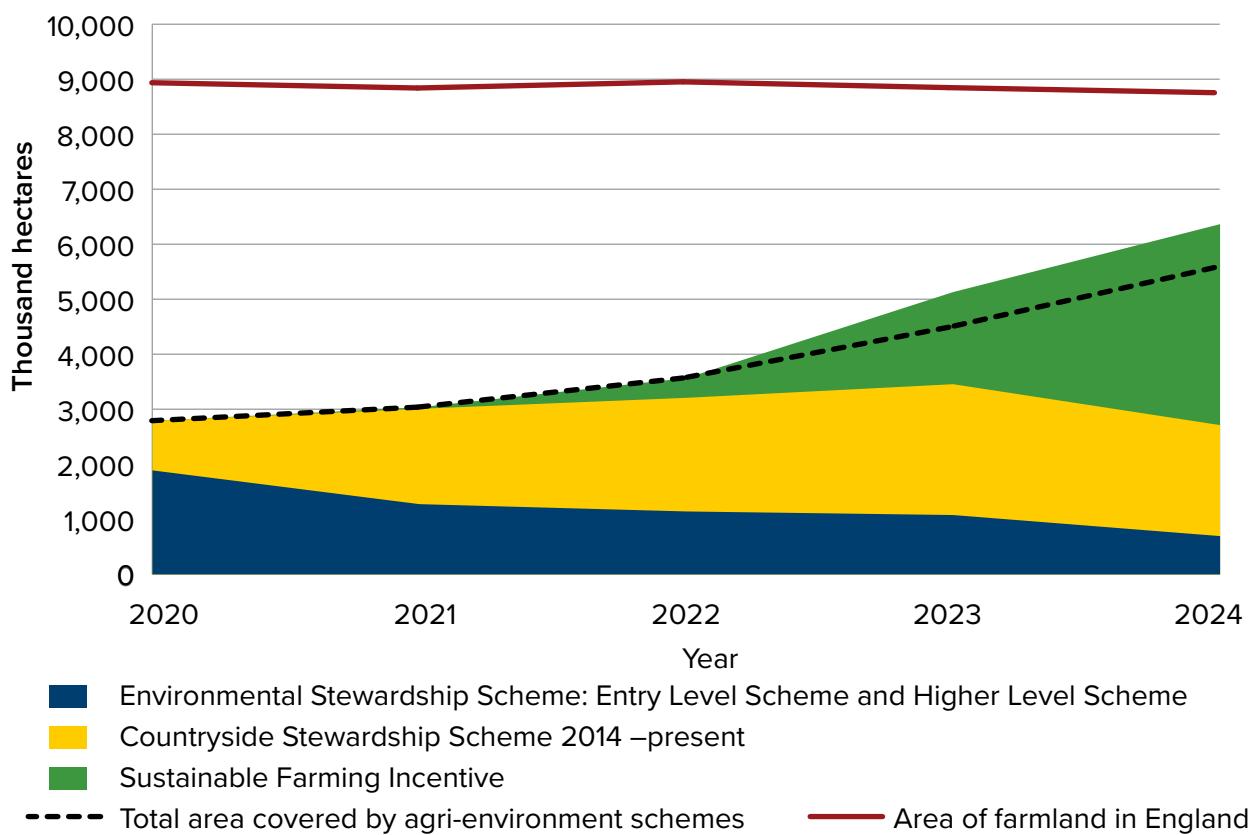


Figure 12.1. Area of land managed with agri-environment scheme agreements in England between 2020 and 2024.⁸⁴⁸ There have been methodological changes during this period as represented by the black dashed line.

The increase in SFI agreements is encouraging. However, it is the actions farmers and land managers are adopting within AES agreements that will deliver environmental change. Current SFI agreements are dominated by actions where farmers and land managers receive funding to develop plans related to soil health, crop nutrients, and pest management.⁸⁴⁶ However, the environmental benefit of plans if they are not accompanied with actions on the ground is limited.

Actions that aim to protect wildlife in the farmed environment are less common in SFI agreements. For example, SFI actions which temporarily take land out of production cover 3.4% of the utilised agricultural area.⁸⁴⁶ It is unclear if this pattern of uptake is in line with Defra's long-term delivery plan for leading farmers and land managers to progress to higher-tier AES.

Box 12.2. Published agri-environment scheme evidence

To evaluate changes in the uptake of AES we have used National Statistics, Accredited Official Statistics, and Official Statistics published by government.^{50,404,846-849} We welcome the development of official statistics and the accompanying methodology published this year.⁵⁰ However, these statistics do not appear to allow for the EIP23 commitment of 65–80% of landowners and farmers to adopt nature-friendly farming on at least 10–15% of their land by 2030 to be monitored. The published data is not conducive to analysis of the uptake of higher-tier and lower-tier actions within schemes. Nor does it account for the likely contribution of Landscape Recovery, Farming in Protected Landscapes and other measures on farmland likely to benefit biodiversity.

Despite the budget for sustainable food production increasing to £5 billion for the two-year period 2024/25-2025/26,^{850,851} the cap of £1.05 billion for SFI was exceeded. The SFI Expanded Offer (SFI2024) opened at the end of May 2024. In March 2025 Defra closed the scheme for new applications when the budget had been fully allocated.⁸⁵² Defra subsequently re-opened SFI2024 for those who had started an application before the closure.⁸⁴⁵ Changes to AES such as these impact confidence in schemes and business planning. Previously the government had committed to address low levels of confidence and provide stability in the farming sector.³⁹

Status of higher-tier schemes (Countryside Stewardship Higher Tier, Landscape Recovery)

Countryside Stewardship Higher Tier (CSHT) is a part of ELM and is intended to deliver greater environmental benefits. Applications for CSHT closed in autumn 2023 and during the intervening period the scheme has been developed.⁸⁵³ Applications for new CSHT agreements opened in September 2025 and eligible farmers and land managers also received invitations for pre-application advice.^{853,854} The new CSHT offer is more flexible, and includes new actions relating to watercourses, wetlands, and agroforestry.⁸⁵⁵

Landscape Recovery funds large-scale long-term projects to improve the environment through a competitive application process that combines government and private sector funding. Projects from the first round of applications from 2022 are transitioning from the planning to delivery phase.⁸⁵⁶ The second round announced in late 2023 provides £25 million of funding across 34 projects focused on net zero, protected sites, and wildlife-rich habitats. A third round of applications for Landscape Recovery was to be launched in 2024 but is delayed.⁸⁵⁷

Legacy schemes

In parallel to SFI, the current iteration of CSHT and Landscape Recovery, legacy AES continue to operate resulting in a complex policy and regulatory landscape. For example, Higher Level Stewardship agreements, a part of the legacy Environmental Stewardship Scheme can be extended when they expire but cannot be converted into current schemes such as CSHT.^{858,859} Those with legacy Countryside Stewardship agreements expiring in 2024 were given the option to renew with a ‘mirror’ agreement with the same duration and terms as the original agreement.⁸⁵⁴

Grant schemes

Farming in Protected Landscapes (FiPL) offers grants for projects in National Parks and National Landscapes (previously Areas of Outstanding Natural Beauty). Launched in summer 2021, these grants contribute to delivering the priorities identified for that area, with oversight from local advisors and assessment panels. Defra reports that over 2,300 projects have received support, engaging over 4,500 farmers and land managers operating in and around the 44 Protected Landscapes in England.⁸⁶⁰

The 2025 FiPL year 3 report recommended that funding is extended beyond March 2025. Defra announced in February 2025 that FiPL applications have been extended to March 2026 with an additional £30m of funding.^{861,861} Other recommendations in the FiPL report include introducing permanent land management advisors and developing best practice models.

Other capital grants support wider sustainable food production and environmental outcomes. Due to high demand and a significant increase in the value of applications, certain capital grant elements were withdrawn in November 2024. Applications from May to November 2024 were worth 42% more than all applications received in the previous financial year indicating the level of demand.^{862,863}

A new round of capital grants opened for 2025/26. Applications on hold from the previous year were processed first, with new applicants able to apply from July. Up to £150 million of funding was available to address issues such as air quality, boundaries, trees and orchards, natural flood management and water quality. New grants include assessing woodland condition, preventing wildfires, repairing stone walls, and educational visits. Caps have been introduced for certain grants to enable more people to apply. By 1 August all the funding had been allocated. The next offer in 2026 is intended to include further improvements, although these are not yet specified.^{862,864}

Implications of agri-environment schemes uptake on biodiversity

Our 2023/2024 progress report included an assessment of the likelihood of stabilising farmland bird species for a range of AES pathways.⁸⁶⁵ Farmland birds are a commonly used indicator species. We have used this indicator as a proxy to understand the likelihood of meeting the 2030 species abundance target and the long-term target to reverse the decline of species abundance.

Our commissioned research concluded that the widespread adoption of lower-tier schemes such as SFI is unlikely to deliver an improvement or even a stabilisation of farmland birds. Higher-tier AES such as CSHT supported with a proportionate background level of lower-tier actions (such as SFI) across the wider countryside are required for a higher likelihood.⁸⁶⁵

For example, the research we commissioned found 'we could be 50% confident of stabilising the FBI (Farmland Bird Index) if around a third of landholdings in lowland England farmland provided bird-friendly HLS (higher-tier) measures.⁸⁶⁵ In order to be more confident of stabilisation, higher provision levels would be needed'. Additionally, the higher-tier schemes must include bespoke actions designed to address the decline of farmland birds or other target species.⁸⁶⁵

By overlaying the current ranges of uptake of higher and lower-tier AES on the AES pathways we can assess the likelihood of AES supporting a stabilisation or increase

in farmland birds and use this as a proxy for the recovery of all species of the wider countryside (see Methodological Statement for further details).

[Figure 12.2](#) presents three scenarios we developed with a range of estimates of the uptake of higher and lower-tier AES. In total we developed nine scenarios (see Methodological Statement for details).

The optimistic scenario combines the higher levels of AES coverage published by Defra (70%) with our most optimistic estimate of around 38% of the AES actions being higher-tier. In this scenario we estimate 26% of farmland in England is managed with higher-tier actions, 44% lower-tier and 30% no AES actions. This is unlikely to stabilise species abundance when compared to the research we commissioned.⁸⁶⁵

[Figure 12.2](#) also presents a scenario in which biodiversity loss has a higher likelihood of stabilisation. The coverage was selected to be within the upper range of the commitment that 65–80% of landowners and farmers adopt nature-friendly practices (on at least 10–15% of their land).³⁶ Here there is equal coverage of higher-tier and lower-tier AES (each covering 40% of farmland). This illustrates the level of increase in higher-tier actions that is required.

Re-balancing AES within the extent of existing commitments could provide a moderate to high likelihood of stabilising species abundance. Our analysis shows that the highest likelihood of stabilising and increasing species abundance would require a substantial increase in the deployment of higher-tier AES.

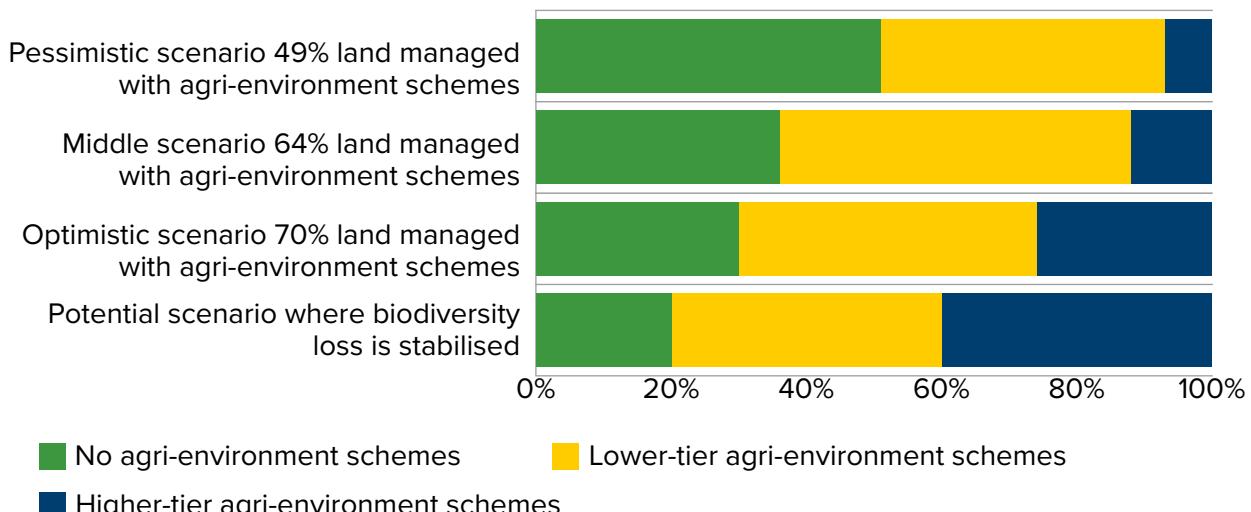


Figure 12.2. Our estimate of the percentage farmland managed with agri-environment schemes, compared to a scenario where biodiversity loss could be stabilised.

The role of advice in improving policy targeting and coherence

In our two previous progress reports we made recommendations concerning the need for spatial prioritisation and effective advice for farmers to ensure the right land management actions are carried out in the right places.

In our 2023/2024 progress report we described some of the challenges of the current agri-environment advice context as well as the potential benefits of strengthening and expanding advice provision. We noted a high level of demand for advice coupled with a fragmented and under-resourced provision. We drew on an established evidence base

explaining the attributes of effective advice and guidance, linking it to increased uptake and ambition of nature-friendly farming practices.

This year we have deepened our assessment of the role of advice in improving the spatial targeting and coherence of nature-friendly farming policies and regulations. We commissioned an evidence review and primary research with advice providers and users to explore how and why local-scale advice works in different contexts.⁸⁶⁶

The evidence review provided four causal explanations of how and why local-scale advice helps improve where nature-friendly farming practices are adopted, their alignment with policy ambitions and coherence with wider farming regulations, and the environmental outcomes they provide. [Table 12.1](#) presents the conditions under which advice works most effectively (Context), the processes or farmer responses they trigger (Mechanism), and the resulting impacts on behaviour and outcomes (Outcome).

Table 12.1. Explanations for successful local advice

Theme	Context	Mechanism	Outcome
Targeting	Advisory services focus on high-priority locations (for example, catchments, landscapes) and are delivered by trusted, locally embedded actors who tailor content to local biophysical and farm system realities.	Farmers perceive advice as relevant, credible, and grounded in their own context (salience plus trust).	Greater engagement and adoption of practices where they matter most, maximising environmental benefit.
Alignment	Advisors interpret regional/national strategies (Local Nature Recovery Strategies, catchment plans) into farm-specific actions, use mapping tools to make priorities tangible, and convene groups across holdings for landscape-scale planning.	Farmers see how their actions contribute to wider environmental goals (goal alignment and perceived contribution).	Increased participation and coordinated delivery of outcomes that add up to landscape and national targets.
Coherence	Advisory actors coordinate through convenors to reduce duplication, align messages across providers, and use knowledge brokers to integrate scientific, policy, and experiential know-how.	Farmers receive consistent, holistic guidance with reduced cognitive load and improved message coherence.	Improved adoption of advice, more efficient delivery, and reduced fragmentation of the advisory system.
Efficacy	Advisory presence is continuous and trusted, combines group learning (awareness/norms) with tailored one-to-one follow-up, and links advice to enabling incentives (payments, grants).	Farmers experience advice as doable and worthwhile (capability, confidence, reduced risk).	Higher uptake, stronger compliance, and greater delivery of environmental outcomes.

These insights can help the design and delivery of local-scale farming advice, regardless of the sector providing it. However, as the owner of the targets, regulations and incentives that define nature-friendly farming, government is best placed to ensure the farming advice offer in England reflects these descriptions. This can be done through direct provision of publicly funded advice services and through setting the enabling conditions that improve advice targeting and coherence. We identified five such enablers that government could focus its efforts on ([Table 12.2](#)).

Table 12.2. Five enabling conditions for a successful farming advice system

Enabler	Evidence-based description
Trust and credibility	Farmers consistently prioritise credibility and impartiality over provider type. Longevity, expertise, and being embedded in local contexts matter more than whether advice is delivered by public, private, or charitable actors.
Continuity and stability	Stop-start advisory programmes undermine confidence, while stable, long-term presence enables cumulative learning and re-engagement. Local convenor and facilitator roles are more effective when consistently funded and retained.
Agency and co-design	Co-designed advice is perceived as more legitimate, relevant, and practical. Farmers' involvement in shaping support increases ownership, while facilitation and peer-to-peer formats (e.g. farmer clusters) embed agency and mutual accountability.
Integration of knowledge	Effective advice draws on both scientific and local experiential knowledge. Multi-actor knowledge brokers bridge the worlds of research, policy, and farming practice. Mapping farmer spatial knowledge alongside environmental data improves targeting and fit.
Currency and relevance	Advisors' ability to remain technically up-to-date and contextually aware is directly linked to credibility and uptake. Continuing professional development and engagement in multi-actor networks sustain this relevance.

Government has various farming regulations and policies that could be better targeted, more joined up and effective if the associated advice system is improved. Advice is an important part of ensuring compliance with the regulatory baseline that underpins the success of other policies like ELM, Protected Sites, and Protected Landscapes. Improving and integrating the advice offer across these regulations and policies could lead to higher compliance rates, higher uptake and better progress towards EIP targets and commitments that depend on nature-friendly farming.

Regulating more effectively

To get nature-friendly farming right, the OEP's advice on the EIP revision underlined the importance of regulating more effectively.¹⁶ The independent Corry Review highlighted the lack of planning frameworks for agriculture as well as the complexity of the regulatory landscape for farmers to comply with regulations, in particular on agricultural pollution.²⁰

The review recommended reform to the Reduction and Prevention of Agricultural Diffuse Pollution (England) Regulations 2018 (the Farming Rules for Water), adopting a new approach to managing slurry, updating existing compliance guidance, as well as scaling up risk-based monitoring by regulators (Box 12.3).

Box 12.3. Corry Review recommendations 12, 16 and 17

Recommendation 12: Defra should swiftly develop plans to reform slurry application and storage to help address diffuse water pollution from agricultural sources. This is likely to involve changing the Farming Rules for Water and wider regulations relating to slurry application and storage. This should aim for a single set of regulations which farmers can understand and comply with.

Recommendation 16: Defra should rapidly review and rewrite its existing catalogue of compliance guidance to ensure it is fit for purpose, removing any duplication, ambiguity and inconsistency. The aim of the review should be a streamlined, clear and up to date catalogue, signposted for each sector so that it is easy to navigate. Stakeholders and customers should be fully involved in this process.

Recommendation 17: Regulators should commence more frequent risk-based monitoring, using real-time and digital approaches. Clear strategic plans should be produced by each regulator for how they are taking a risk-based approach to monitoring, as well as their approach to making their monitoring information more accessible to the public, using live, up-to-date, data to support holding businesses and regulators to account.

With potentially hundreds of regulations directly relevant to farming activity impacts on the natural environment, it is important that reviewing and monitoring the regulatory landscape begins with addressing the greatest risks. We commissioned research to identify the farming activities that pose the greatest risks to the natural environment.⁸⁶⁷

The research used a review of available evidence and expert judgement to appraise how effective farming regulations and wider legislation are in reducing the impact of farming activities on the natural environment. The analysis drew on a source-pathway-receptor approach to map environmental risks associated with farming and land management activities.^{868,869}

[Figure 12.3](#) presents headline results of risks posed by farming activities to environmental areas including habitats, air quality, soil quality and water quality. Statistical tests confirmed that there were statistically significant differences between risks posed within each area.

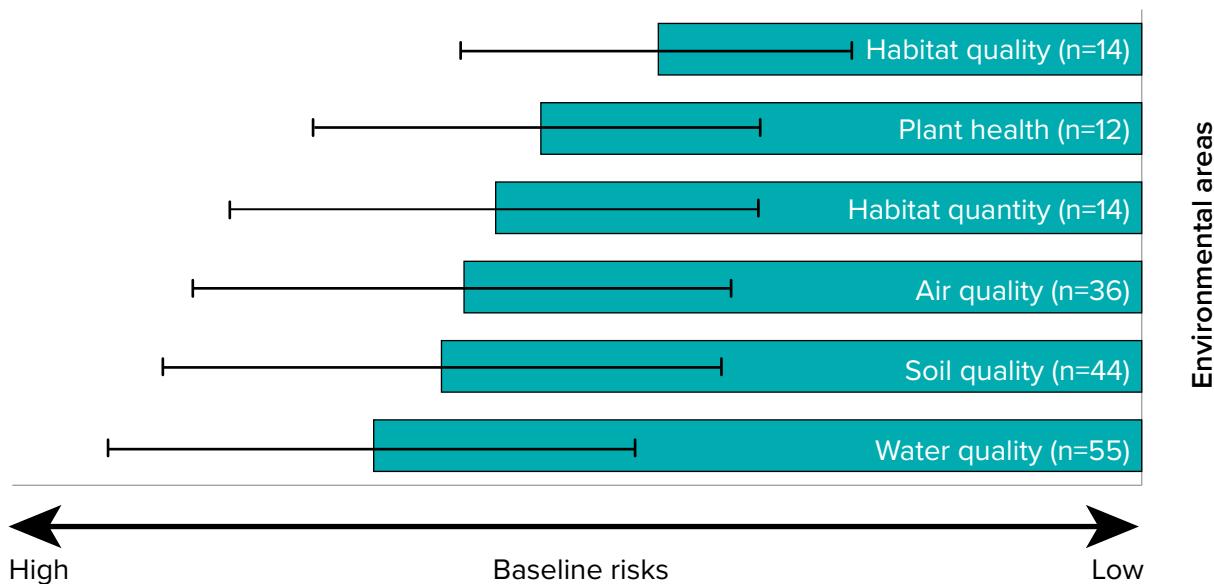


Figure 12.3. Relative risks posed from farming activities on the environment. Whiskers represent variability in the results (one standard deviation).

Overall, the research found that farming activities have the greatest impact on air, water and soil quality, compared with direct impacts on habitats and species. However, the indirect, knock-on effects for habitats and species would likely be significant and large. Water pollution from nutrients and pesticides were identified as a particular risk to water quality. The main air pollution risks came from ammonia and methane.

When the agricultural risks were assessed spatially, it showed that they were greatest in the arable dominated regions of the east of England. However, risks vary greatly by farm type with risks from dairy and lowland grazing greatest in eastern parts of England. This reiterates the importance of spatial prioritisation for effective regulation.

The mitigation of risks from farming activities were considered through the regulations which manage them. [Figure 12.4](#) shows the overall regulatory effectiveness assessed across each environmental area. The x-axis shows the relative coverage of regulations in mitigating risks from farming activities, whilst the y-axis shows how effective that coverage is.

The findings shows that regulations concerning air, water and soil quality baseline risks were assessed as having the lowest levels of effectiveness. The water quality regulatory effectiveness results are skewed by the effectiveness of pesticide regulations, assessed as relatively high. When focusing on the effectiveness of nutrient pollution regulations, the regulatory effectiveness reduces.

Furthermore, the research shows that the regulatory landscape concerning soil quality is highly complex. Whilst many aspects of soil quality are considered in regulation, this is across a highly fragmented landscape spanning plant and animal health, diffuse pollution and habitat conservation. Regulations concerning both soil and water quality included those often cited such as the Reduction and Prevention of Agricultural Diffuse Pollution (England) Regulations 2018 (the Farming Rules for Water); and the Environmental Permitting (England and Wales) Regulations 2016. They also include less cited but important regulations such as The Dairy Products (Hygiene) Regulations 1995, which influences the control of wastewater from livestock.

Our research provides government with detailed evidence with which to further consider and address the recommendations of the Corry Review. It outlines farming regulations, activities and environmental areas where the need for reform is most pressing. It also identifies spatially where efforts could be further considered to regulate effectively and maximise opportunities for protecting and improving the natural environment.

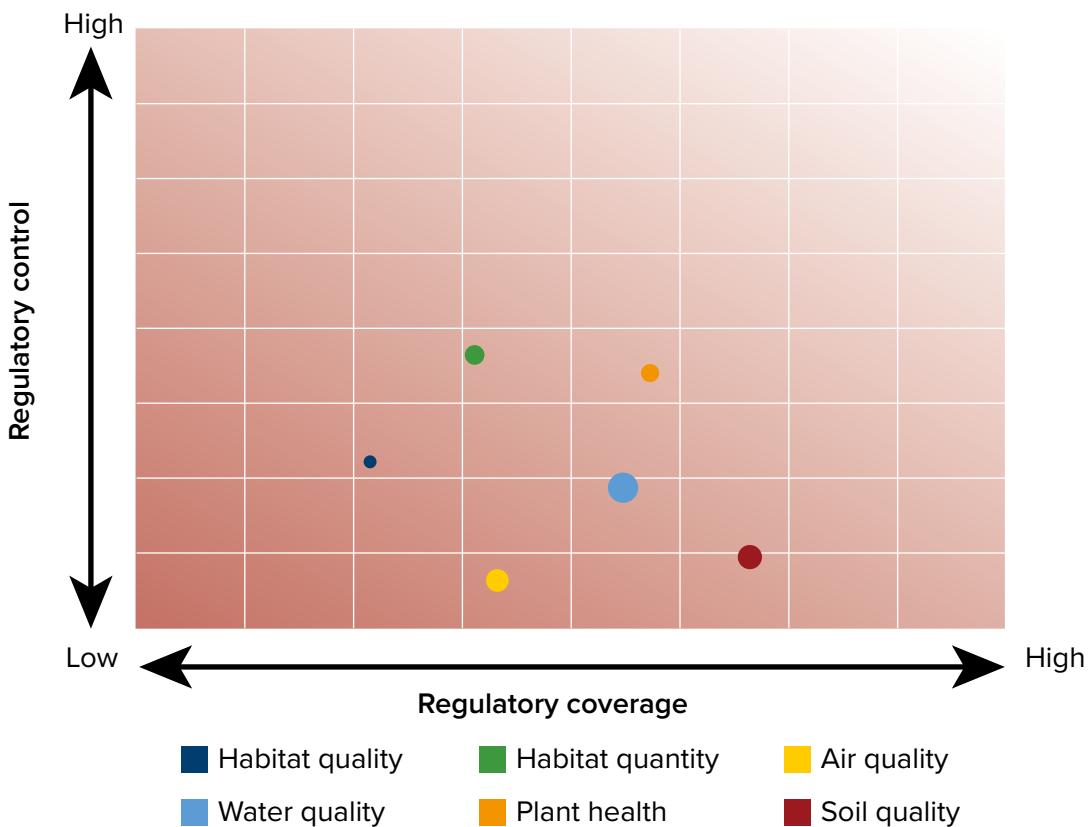


Figure 12.4. Risk matrix of regulatory coverage and controls across environmental areas as a proxy for overall regulatory effectiveness.

Opportunities for improvement

In our 2023/2024 progress report we found government to have progressed in developing and deploying ELM. We emphasised the importance of re-focussing delivery on the higher-tier actions in Countryside Stewardship and Landscape Recovery to drive biodiversity recovery and achieve targets.

In the last twelve months, SFI has continued to grow. Uptake of these lower-tier actions led to the SFI budget being fully allocated. This pattern of lower-tier AES delivery is unlikely to bring about biodiversity recovery but presents an opportunity for farmers and land managers to be directed to more ambitious AES.

The upcoming 25-year farming roadmap⁴¹ is an opportunity to set out a clear timebound delivery pathway for farmers and landowners to transition to more ambitious AES, in order to achieve environmental targets and commitments alongside wider outcomes. The roadmap should clarify how farmers can transition to higher-tier schemes and the AES types, locations and levels of uptake required. Wider grant schemes, and how they contribute to environmental outcomes, also need further consideration.

Monitoring progress with nature-friendly farming requires evidence not only on the uptake of farming schemes but nature friendly schemes. There is an opportunity for government to provide greater transparency and further incorporate wider elements such as Landscape Recovery, Farming in Protected Landscapes and Capital Grants where appropriate.

The current farming advice system presents opportunities for further enhancement in delivering nature-friendly farming outcomes. As part of key policy development, such as ELM and regulatory reforms, and in response to the Corry Review, government has an opportunity to improve the targeting and join-up of farming advice to drive ambitious AES uptake and higher regulatory compliance.

Government can play a dual role, providing advice directly to farmers through public bodies, and providing the enabling conditions needed for the wider farming advice sector to support delivery of EIP targets and commitments. Our research this year has synthesised and developed the evidence base to support this. It has also identified the regions, farm types and regulations where action is most urgently required.

Recommendations for nature-friendly farming

In our 2022/2023 progress report, we made three recommendations relating to monitoring and reporting, spatial prioritisation and provision of advice. Progress to date has been mixed. These issues remain relevant and are reflected in subsequent recommendations.

In our 2023/2024 progress report, we made two recommendations.

Government has accepted our recommendation that Defra ensure incentives are sufficient to deliver a significant increase in the uptake of environmentally ambitious aspects of Countryside Stewardship and Landscape Recovery schemes, and to make full use of spatial prioritisation, farm advice and guidance for this.

Government believes that ongoing work does this sufficiently. However, the ongoing work is not demonstrably adequate. Furthermore, key indicators like the abundance of farmland birds and soil nutrient balances are not encouraging. Progress during the annual reporting period has been limited. Therefore, this recommendation still stands. This year we also make a further specific recommendation on this issue.

Government has accepted our recommendation that the Environment Agency takes action to increase rates of compliance with farming regulations and states that the Environment Agency is working with farmers through an advice-led approach. We agree that good progress has been made regarding the rates of inspections although rates of compliance need further improvement. Progress during the annual reporting period was mixed. Therefore, this recommendation still stands.

This year we make three recommendations.

Recommendation 1: Defra should urgently publish and implement a fully evidenced, spatially explicit, resourced and time-bound delivery plan for nature-friendly farming. It should set out how farmers and land managers will be supported and incentivised to apply for environmentally ambitious higher-tier schemes or transition to them from the Sustainable Farming Incentive and legacy schemes.

Recommendation 2: Defra should publish annual statistics that transparently provide data on the uptake of nature-friendly farming schemes that includes the number of schemes, area coverage corrected for overlap, spatial distribution and scheme quality and intended outcome.

Recommendation 3: Defra should prioritise its reform of farming regulations and its advice provision to areas where both regulatory effectiveness is low and pressures from farming activities on the natural environment are high. These include nitrogen and phosphorus pollution and soil quality.

12.3. Green finance

The EIP23 contains a commitment to mobilise 'at least £500 million in private finance to support nature's recovery every year by 2027 in England, rising to more than £1 billion by 2030'.³⁶ In fact, the scale of finance needed (private or public) to deliver on nature-related outcomes would appear to be significantly larger. For England it has been estimated at £27 billion over a 10 year period and for the UK as a whole between £44 billion and £97 billion.⁸⁷⁰

Our 2022/2023 and 2023/24 progress reports provided a broad overview of government plans, enabling activities and issues related to mobilising green finance, informed by a Rapid Evidence Assessment.⁸⁷¹ We identified three priority areas for government attention. These were defining sectoral pathways for nature recovery, tracking investment flows, and addressing the barriers to mobilising private investment. These remain critical to closing funding gaps for nature goals.

This year we continue to assess progress across similar themes, but with greater focus on the role and governance of nature markets to provide clarity on what actions are needed by government.

Nature market framework – market-based mechanisms for leveraging investment

Nature markets are seen as an important mechanism for supplying environmental actions and increasing private financing of nature recovery.⁸⁷² They enable buyers to pay for the benefits they receive from natural assets or environmental improvements (if there is demand) and provide a source of income for farmers and landowners providing nature benefits.

There are two types of markets, compliance markets, where participation is required by law, and voluntary markets. In the UK, Biodiversity Net Gain (BNG) and Nutrient Neutrality are the main compliance markets, while Woodland Carbon Code and Peatland Carbon Code are the main voluntary markets (Table 12.3).

UK nature markets are immature. Market value, the total value of all transactions per year, is relatively small. Buyer motivations for purchasing BNG and Nutrient Neutrality credits are primarily to compensate the environmental harm caused by development, with limited additionality towards delivering outcomes that support environmental targets and goals.

Our recent review which engaged stakeholders found that while there is still optimism that such markets could grow as standards, governance and operations mature, investor confidence is weakening.^{871,873}

A consistent finding from stakeholders is that clearer government frameworks and policy signals are essential to build trust and unlock investment. The main nature markets have evolved as a result of different policies and have different drivers of demand, governance structures, rules and standards. Moreover, governance structures are often inappropriate, for example, having significant reliance on the planning system in England. This increases the complexity, especially for actors who want to participate in multiple markets. The fragmentation of nature markets, including at national, regional and global levels, also undermines confidence and has resulted in many issues that create integrity risks.

Government's Nature Markets Framework (2023) was an important start in harmonising nature market governance expectations.⁸⁷⁴ It defined general principles and conditions needed for high-integrity markets. The British Standards Institution has since advanced these, drawing upon and consolidating industry expertise (for example, Flex 701 principles and Flex 704 for nutrient credits). However, these remain voluntary, and the processes to conform with some requirements, for example, market registries are not available.^{875,876}

A major issue is the lack of independence in oversight roles in compliance-based markets, which creates potential conflicts of interest. In compliance-based markets, national and

local government are heavily involved in governance, often with multiple roles (Table 12.3). Within the BNG scheme, Natural England provides a mix of scientific advice and regulatory roles. It developed the BNG metric, designed and administers the registry, and provides advice to both Local Planning Authorities that validate BNG applications, and to government on BNG policy. Local Planning Authorities administer and approve biodiversity gain plans, and can develop and sell their own BNG credits, or act as brokers for third-party units. In contrast, the Woodland Carbon Code and Peatland Code have clearer governance, using independent boards, scientific advisory groups and third-party verifiers.

Table 12.3. Overview of current market value and governance structures for key nature markets.⁸⁷⁷

Market	Estimated market value £m/year (2024) and buyer motivations	Governing organisations	Validators	Register
Biodiversity Net Gain	<p>Compliance driven</p> <p>Market value is estimated at £135-£274 million annually. Note: about 90% of spend is compensatory.</p> <p>Developers are main buyers, who are subject to planning obligations to ensure a 10% Net Gain in biodiversity (using BNG metric).</p>	<p>Department for Environment, Food & Rural Affairs – oversight and regulation.</p> <p>Natural England – delivers and administers aspects of statutory BNG on Defra's behalf, including selling statutory biodiversity credits as biodiversity provider of last resort.</p> <p>Ministry of Housing, Communities & Local Government – oversees the planning system in England, integral to BNG implementation.</p> <p>Local planning authorities – manage statutory BNG responsibilities in their areas, including considering new development proposals, ensuring compliance, and enforcing statutory BNG locally.</p>	<p>Local planning authorities – validate BNG applications.</p>	<p>Natural England – involved in the development of a net gain sites register.</p>

Table 12.3. Overview of current market value and governance structures for key nature markets.⁸⁷⁷ (cont.)

Market	Estimated market value £m/year (2024) and buyer motivations	Governing organisations	Validators	Register
Nutrient Neutrality	<p>Compliance driven</p> <p>Market value is estimated at £77 million annually. Note: Much of this spend is compensatory.</p> <p>Developers are main buyers, who are subject to planning obligations to ensure nutrient neutrality (no overall increase in nutrient pollution). This applies only to new housing developments in areas affecting protected habitats sites that are already in 'unfavourable condition' (due to nutrient pollution).</p>	<p>Natural England – administers and oversees the system.</p> <p>Department for Environment, Food & Rural Affairs – has overall responsibility for the policy and is investing in the nutrient mitigation scheme alongside MHCLG.</p> <p>Local planning authorities – responsible for implementing nutrient neutrality requirements in their areas, including assessing planning applications, conducting Habitats Regulations Assessments, and determining whether developments meet nutrient neutrality criteria.</p>	<p>Natural England – accredits mitigation projects, providing developers with a Nutrient Credit Certificate.</p> <p>Not-for-profit organisation – certifies nutrient neutrality credits.</p>	<p>Natural England – involved in the development of a nutrient credit register.</p>

Table 12.3. Overview of current market value and governance structures for key nature markets.⁸⁷⁷ (cont.)

Market	Estimated market value £m/year (2024) and buyer motivations	Governing organisations	Validators	Register
Woodland Carbon Code	<p>Voluntary driven</p> <p>Market value is estimated at £3.8m in 2024.</p> <p>A range of private sector businesses may choose to purchase carbon credits. Demand may be due to compensating additional greenhouse gas emissions, or to support transition towards meeting net zero goals (e.g. a net reduction).</p>	<p>Secretariat – Scottish Forestry on Behalf of the governments of the UK, Scotland, Wales and Northern Ireland.</p> <p>The Nature Markets Strategy Board (Forestry Commission, Scottish Forestry, Welsh Government and Northern Ireland Forest Service) – oversees the direction and priorities of the Woodland Carbon Code and facilitates co-working across all four forestry authorities</p> <p>The Executive Board (Forestry Commission, Scottish Forestry, Welsh Government and Northern Ireland Forest Service) – manages the day-to-day running of the programme, its application, promotion, and strategic and technical development</p> <p>The Advisory Board (includes a broad range of forest sector and carbon market stakeholders) – advises the Executive Board on various aspects of the Code's development, interpretation, and application.</p> <p>The Disputes Panel (includes forest sector stakeholders) deals with any disputes relating to the interpretation of the standard.</p>	<p>Accredited independent third-party organisations – validate and verify projects.</p> <p>Currently two organisations are accredited: Organic Farmers & Growers, and the Soil Association.</p> <p>These organisations are approved by the UK Accreditation Service.</p>	<p>UK Land Carbon Registry – stores and displays data on Woodland Carbon projects and is managed by S&P Global.</p>

Table 12.3. Overview of current market value and governance structures for key nature markets.⁸⁷⁷ (cont.)

Market	Estimated market value £m/year (2024) and buyer motivations	Governing organisations	Validators	Register
Peatland code	<p>Voluntary driven</p> <p>Market value is estimated at £0.3m in 2022.</p> <p>A range of private sector businesses may choose to purchase carbon credits. Demand may be due to compensating additional GHG emissions, or to support transition towards meeting net zero goals (for example, a net reduction).</p>	<p>The Executive Board – has final sign off and decision-making powers regarding the Peatland Code on behalf of the IUCN UK National Committee.</p> <p>Technical Advisory Board – provides technical oversight and recommendations.</p>	<p>Validation/Verification Bodies – independent third-party organizations that validate and verify units. Currently two organisations are accredited: Organic Farmers & Growers, and the Soil Association.</p> <p>These bodies must meet specific eligibility criteria and be approved by the Peatland Code.</p>	<p>UK Land Carbon Registry – stores and displays data on Peatland Code projects and managed by S&P Global.</p>

Another barrier is the poor transparency and coherence across credit registries. These are essential for tracking credit issuance, trading and retirement. This is key information for a well-functioning market, helping both sellers and buyers to evaluate the benefits and risks of potential transactions, and so aid decision making on whether to participate in the market.

Currently registries are disparate and underdeveloped. Stakeholders highlighted the BNG register in particular as lacking transparency.⁸⁷⁷ Data cannot easily be exported, there is little information on timing, habitat types, or demand, and there are significant lags in transaction reporting. This raises transaction costs for participants and undermines market confidence.

Poor integration between registries adds to the risks of fraud and double counting.⁸⁷⁵ For example, the same environmental benefit can be sold to different markets. It also limits the ability to manage or monitor credit stacking (selling multiple credits such as carbon, nutrients and biodiversity from the same land), which the previous government indicated it supported, as it enables higher landholder returns for providing nature-based solutions, and incentivises multi-benefit projects.⁸⁷⁴

Stakeholders also consistently identified a lack of integration and coherence between nature markets and the wider policy framework and delivery mechanisms as a key barrier. This incoherence undermines investment, with nature market governance frameworks and demand-creating policies often poorly aligned. For example, misalignment between environmental land management schemes and BNG creates uncertainty that deters

investment of private capital. For other market participants, tax and financial accounting rules for nature market transactions remain unclear, and a further source of risk.⁸⁷⁷

There also remains considerable ambiguity over how nature market delivery should align with spatial priorities (including Local Nature Recovery Strategies), and how existing nature markets will interact with the planned Nature Restoration Fund, to be enacted through the Planning and Infrastructure Bill.

These issues and gaps in strategic planning for how nature markets should interact with wider policy and regulatory frameworks were highlighted in the Corry Review of Defra's delivery arrangements.²⁰ A nature market accelerator was launched, following a recommendation in the review, although this mainly appears to provide technical advice and does not have the ability to drive coherence in market governance.⁸⁷⁸

Stakeholders identified the need for a single oversight body for nature markets to bring greater coherence. Encouragingly, government also recently launched a consultation into Voluntary Carbon and Nature Markets, which includes a focus on market governance, and included some exploration of models for strengthening regulatory oversight.

In our view, government's response to the consultation should be bold. Only a step-change in market policy and regulatory oversight can address the gaps, fragmentation and incoherence in nature market governance.

Supporting private sector demand for investment

Stimulating demand is essential to unlocking large-scale private investment in nature. Investment needed is largely two-fold: into company value chains and sector transformations to reduce pressures on nature, and investments directly into nature conservation and restoration. Stakeholders highlighted a range of structural barriers to scaling up such investment. The source of investment for compliance-based markets is relatively small and will have limited scale given that it is mainly tied to the rate of development and planning approvals. It currently only covers only a fraction of what finance is needed and is mostly compensating for harm caused from development.

For example, the value of the BNG market was initially estimated to be £135-274 million annually.⁸⁷⁹ Taking the upper bound estimate, that is around 10% of the estimated annual finance gap for England based on Green Finance Institute analysis.⁸⁷⁰ However, when only 10% of the BNG scheme is delivering an overall net gain in outcomes, and the remaining 90% is compensatory, this equates to the BNG market contributing only up to £27.4m additional funding annually, or 1% of the finance gap.

Demand in the voluntary carbon credit markets is also fragmented. The lack of commercial or legislative drivers for demand, and concerns over reputational risk and greenwashing, keep demand low. This weak demand compounds commercial challenges on the supply side, with revenues too low and costs too high to make many projects a viable and attractive investment opportunity.

Government's call for evidence on expanding private sector investment in nature is a welcome step forward.⁸⁸⁰ It explores which sectors should contribute, what barriers exist, and what policy levers might help overcome them. However, we would like to have seen more concrete proposals on issues which have been highlighted by stakeholders. They include:

Expanding and providing regulatory certainty for compliance markets: For sectors with large impacts on nature, for example, water, construction, and agriculture, government could expand existing compliance markets. Or it could amend requirements for existing compliance markets to mobilise more demand, for example by increasing BNG targets beyond 10%.

Nature levies or restoration funds: A ‘nature levy’ could create a steady demand by requiring businesses to pay for their impacts and targeting sectors with heavy reliance or impacts on nature.⁸⁸¹ This could even expand on the provisions of the Planning and Infrastructure Bill, which enables developers to meet their environmental obligations by paying into the Nature Restoration Fund managed by Natural England.

Mandatory nature-related financial disclosures: Similar to mandatory climate-related financial disclosures, this would require large corporations to report dependencies, impacts, risks and opportunities to help internalise nature-related externalities within business strategy and capital allocation decisions.

One important proposal which the government is considering is whether to extend the UK Emissions Trading Scheme to include nature-based carbon credits.⁶⁸³ This would significantly raise the demand of nature-based carbon credits, and therefore likely increase their price and attract greater supply. Concerns include the impermanence of nature-based removals, the unreliability of accounting for natural carbon sequestration, and uncertainty around future supply of nature-based removals. These factors could threaten the overall integrity of the UK Emissions Trading Scheme,⁸⁸² however the government’s modelling suggests it is unlikely to lead to adverse market impacts.⁸⁸³ Furthermore, unless stacking of credits is allowed and rules are clarified, there is a danger of skewing market incentives towards carbon sequestration at the expense of the other multiple benefits nature-based solutions provide.

Government has also consulted on enhancing the UK sustainability disclosures regime, which outlined the intent to align with the International Sustainability Standards Boards standards to allow international comparability, and the need for a phased approach to enable coherence.⁸⁸⁴

In general, there remains a lack of clear signals from government in relation to its ambition to stimulate demand through new policy, and limited specific interventions have been proposed. In the absence of firm policy, clarity over sectoral transition pathways would help to provide long-term roadmaps to align public and private investment over decades. They can be useful tools for coordinating policy development, including on nature market governance.

The Worldwide Fund for Nature UK and Aviva introduced the rationale for nature-positive transition pathways, and provided a foundational illustrative example for the agriculture sector.⁸⁸⁵ The Green Finance Institute and the WWF have further highlighted why it is essential for the UK government to integrate nature into its economic growth strategy, evidencing examples of UK businesses already investing in nature restoration and calling for nature-positive transition pathways to guide private action.⁸⁸⁶

Defra is now supporting the Green Finance Institute and the Worldwide Fund for Nature UK to develop sectoral Nature Positive Pathways,⁵²⁷ and plans to define the expected contribution of each sector to the delivery of the nature targets in the revised EIP.⁸⁸⁰

Government accountability – credible and transparent public nature investments

With public spending under intense pressure (Defra's 2.7% real-term reduction in the latest Spending Review was among the largest departmental cuts), it is critical that public expenditure is credible, transparent and strategically targeted to deliver cost-effective outcomes.^{887,888}

However, the current tracking of investment flows for nature outcomes is weak and there is not a published overview of expenditure across the EIP. This extends to both ongoing spending and future commitments.

We recently commissioned research into baseline public spending and finance gaps for direct biodiversity outcomes for the current year and cumulatively.⁸⁸⁹ This analysis focused strictly on expenditure that can be credibly attributed to biodiversity goals and assesses the strength and availability of the supporting evidence. It estimated public expenditure for biodiversity in England was £7,349 million in 2024/25, more than seven times higher than the figure most recently published by Defra (£1,035m in 2022/23).⁸⁹⁰

This disparity underscores a fundamental problem. Without a reliable baseline it is impossible to judge what level of public funding is being spent and where and whether investment is credible, well-targeted, or sufficient.

While we cannot precisely identify the source of this discrepancy (due to lack of full methodological transparency), the main causes are evident. Expenditure reporting is scattered across multiple reporting strands, with inconsistencies in how financial expenditures and commitments are presented. Spending on one goal, more often than not, contributes to other goals, but we were unable to apportion out this expenditure, with expenditure tending to be reported by programme, rather than by environmental outcome or action. This makes it particularly difficult to attribute biodiversity-specific spend, given there are a high number of relevant pressures and drivers, and associated policy programmes.

Conclusions

Many of the barriers for closing the finance gap for environmental goals persist. This year we have focused more on the role and governance of nature markets, and the lack of demand for nature-related credits (biodiversity, carbon, nutrients). This highlights some further challenges, for example, poor registries, and applies a market-based lens to previous challenges we have identified such as limited demand signals for environmental benefits.

Many new issues identified this year stem from the fragmentation of nature market frameworks. They have no clear, unified vision on their purpose, and limited integration across nature markets and with wider demand-side policy. Instead, there is excessive complexity, and incoherence, reflecting the situation in the wider environmental regulation system.²⁰

Recommendations for green finance

In our 2022/2023 progress report, we made two recommendations on green finance relating to governance, monitoring and evaluation and the evidence base. Progress to date has been limited. Therefore, these recommendations still stand.

In our 2024/2025 progress report, we made three recommendations.

Government has accepted and deferred a full response to our recommendation to define and publish sectoral pathways for nature recovery. Progress during the annual reporting period has been limited. Government has stated that they will provide more detail on this in the EIP25. Therefore, this recommendation still stands.

Government has accepted and deferred a full response to our recommendation to develop a monitoring and evaluation framework for tracking investment flows. Progress during the reporting year has been mixed. Government has stated that they agree this is important and they are developing a mechanism to monitor and report on economy-wide expenditure on nature's recovery. Therefore, this recommendation still stands.

Government has partially accepted our recommendation to systematically review and address the risks and opportunities to growing nature markets and publish an action plan to address these. Progress during the annual reporting period has been mixed. Government has stated that they will consider risks and opportunities as part of EIP monitoring and reporting. Therefore, this recommendation still stands.

12.4. Green choices

Enabling individuals and organisations to make choices that benefit the environment is crucial for delivering government's ambitions. Across all EIP23 goals, behaviour change is required, and government has a significant role to play in providing the conditions that make that change more appealing and likely.

In the EIP23 government adopted six green choices principles (Box 12.4), first used in the Net Zero Strategy, as the foundation of a cross-cutting theme that would help drive progress across all goals.²⁷⁸

Box 12.4. Government's principles for enabling green choices

1. We will make our society greener by design, reducing the ask of individual citizens by sending clear regulatory signals and targeting measures at government, local authorities and business.
2. We will make green action easier by addressing major practical barriers.
3. We will make green action affordable, supporting this across all sectors of society.
4. We will empower people and businesses to make informed choices, by providing clear information about the environmental impact of different products, services and actions.
5. We will build public acceptability for major changes, inviting those affected to inform policy making, including the most marginalised.
6. We will present a clear vision of a sustainable society, including the role of different actors in achieving our environmental goals.

In successive government APRs there has been no specific mention of the green choices principles or how they have been contributing at a strategic level. Many of the specific actions reported clearly involve behaviour change but generally do not link their design or delivery to the green choices principles.

Despite the lack of explicit reference to the green choices principles it is possible to make the connection. For example, in the APR 2025, progress on nature-friendly farming describes the use of regulations, incentives and advice as means of tackling barriers, affordability, and informing choice to influence individuals' land management decisions. For businesses and sectoral choices, updates on packaging reforms and progress with a circular economy suggest the application of 'greener by design' and setting a clear vision of a sustainable society. Generally, there are far fewer activities that demonstrate efforts to build public acceptability or involve the most marginalised in policymaking.

We hope that the revised EIP restates government's commitment to these evidence-based principles and goes much further in explaining how they relate to specific areas of environmental policy and their outcomes. In our 2023/2024 progress report we provided examples of where we considered the principles are most important for key EIP23 policies. A systematic application of the principles across all goal areas would be welcome in both the revised EIP and its APRs.

We stressed that these principles are not just for Defra, recommending they are applied at a system level to help ensure cross-government coordination when designing interventions in areas where there is a multi-departmental remit. Government accepted this recommendation, stating that it would be working with policy teams, stakeholders and departments to ensure the role of behaviour change would be considered as part of EIP revision and delivery.⁵²⁷

The new Food Strategy

One such area is the food system and last year we commissioned analysis of the extent to which government's approach was fully utilising the green choices principles.⁶⁵² We noted

an uneven expression of the six principles and identified 28 specific actions that could support green choices and drive progress towards a more sustainable food system.

We recommended that a revised food strategy make better use of all the green choices principles and explain how they underpin the actions that will deliver environmental outcomes alongside better nutrition and security. Government partially accepted this recommendation, highlighting the publication of a new food strategy for England and stating that 'the green choices principles are part of our strategy'.⁵²⁷

The new Food Strategy sets out an overall vision, specifies ten priority outcomes, and highlights the economic opportunities of improving the system.⁴⁰ The new strategy goes some way towards addressing our concern about the previous lack of explanation as to how actions would deliver outcomes. The inclusion of two annexes listing all the relevant policy activities (across government, not just Defra) and explicitly linking them to the priority outcomes they contribute to is a step in the right direction. Fuller delivery plans are promised, and these will need to provide the detail behind this high-level description.

However, there is still no explicit referencing of the green choices principles or description of how they have informed the strategy. This year we commissioned further analysis to explore the extent of their expression in the new strategy and the extent to which our previously recommended action areas have been included.

With regards to making the food system greener by design (principle 1), the strategy moderately expresses this as a general approach but with notable gaps and a lack of clarity on implementation. For example, it highlights the need for alignment, transparency and standards across sectors but offers few specific measures that would use regulation to achieve this or that would reduce the burden on individuals.

With regards to influencing behaviour (principles 2, 3, and 4), the expression is weak. There is regular reference to the existence of barriers to change and broad enablers such as innovation and investment, but no commitments aimed at tackling specific barriers. Similarly, the issue of affordability is regularly acknowledged but only in the general sense, not in relation to making greener choices. The underlying assumption is that market growth and innovation will make all options cheaper, not just green ones, which does not address the issue of how to incentivise behaviour change away from unsustainable production and consumption. Again, for informing choices, the importance of knowledge and transparency is highlighted but there is no indication that government will take action to increase information on environmental impacts specifically to influence individuals or businesses.

Lastly, with regards to collaboration (principles 5 and 6), the expression is moderate. The development of the Food Strategy involved a large range of stakeholders and engagement forums with good examples of participatory activity and cultural engagement, but limited evidence of actions deliberately designed to involve the most marginalised. While there is a clearer sense of who is required to act there is little information on how they will work together and be supported by government.

Many of the 28 actions we identified as potentially able to strengthen the green choices principles are reflected in the new strategy by broad statements of intent. There are a limited number of specific commitments associated with them, and the only one fully included is the strengthening of government procurement rules to ensure public money is spent on healthy and sustainable food. Even where action areas are mentioned, the language is tentative, for example, using words such as 'could' and 'might'.

The new Food Strategy offers a clearer vision and a defined set of outcomes that can be used to explain, coordinate and guide delivery of a range of actions. However, it still provides a weak and implicit application of the green choices principles. There is an opportunity to more fully express these principles and operationalise the behavioural insights they are based on, in the associated delivery plans (promised for spring 2026) that will contain much of the detail needed to implement the strategy.

Recommendations for green choices

In our 2023/2024 progress report we made two recommendations.

Government has accepted our recommendation to apply the green choices principles holistically to strategies and policies. Government has stated that the role of behaviour change would be considered in the revision of the EIP and its delivery. We have not assessed progress regarding this recommendation but will do so after analysing the EIP25. Therefore, this recommendation still stands.

Government has accepted our recommendation that Defra should revise the Food Strategy to make better use of all green choice principles. Progress during the annual reporting period has been mixed. A new Food Strategy has been published but the associated delivery plans are still in development. Therefore, this recommendation still stands.

III. A focus on improving nature



Chapter 13: In-depth assessment: reconciling competing demands on land



A recurring theme in our 2023/2024 progress report was the impact of siloed policy development and delivery on achieving outcomes. This can be particularly problematic when multiple priorities need to be delivered at the same time and with finite resources. There is a clear need to improve policy coherence to harness synergies and deal transparently with trade-offs amongst objectives.

In response to growing environmental pressures related to the ways in which land and sea are used, one of the key recommendations in our 2023/2024 progress report was for government to outline clear mechanisms for reconciling competing demands for land and sea.⁴⁸²

The EIP23 identifies land use and planning as a cross-cutting theme that can tie together delivery across policy areas. It highlights the role of the Land Use Framework (LUF), Local Nature Recovery Strategies (LNRSs) and reform of the planning system in achieving this.

Government is currently finalising its long-awaited LUF which aims to enable a more strategic approach to land use. The LUF consultation concluded in April 2025 and we responded to the consultation finding much to welcome in the governments' analysis and proposals.³⁴⁵ Publication of the LUF has been delayed and is now expected in early 2026. This means we have not been able to fully integrate it into this analysis.

Here we consider developments regarding the LUF, LNRSs and planning as well as additional actions that can support progress. This initial analysis aims to inform implementation of the LUF along with wider actions needed to improve coherence and cross-government working regarding land use. We will assess this in more depth once government has set out its full approach to reconciling competing demands on land.

13.1. Why a strategic approach to land use planning is needed

Policy makers are responding to global and domestic environmental, economic and political developments with commitments that have consequences for land use and management.

The UK government has put economic growth at the centre of its Plan for Change.¹⁹ This sets targets to build 1.5 million homes and to fast track planning decisions on 150 Nationally Significant Infrastructure Projects by the end of this parliament. Projects include energy and power, transport and rail, and water and wastewater infrastructure. Although the area of land required to meet housing and infrastructure goals is expected to be quite small – likely less than 1.5% of England's land by 2050 – development has many indirect impacts on land use as land is needed to produce construction materials such as timber and aggregates.³⁴⁵ New developments can also create local environmental pressures such as increased pollution from wastewater discharges. Efforts to address harmful impacts can also affect land use, for example, nature-based solutions.

Ambitious statutory targets have been set to tackle the climate and nature crises. The delivery of net zero emissions by 2050, achievement of targets in the Environment Act

(EA21) and 30 by 30 commitments will require more land to be managed for nature and nature-based solutions. EA21 targets include the 2030 species abundance target, the long-term target to reverse the decline of species abundance, the long-term wildlife-rich habitat restoration or creation target and the 2050 target for woodland and trees outside woodland. Achieving targets to reduce environmental pressures such as the EA21 agricultural water target, which aims to reduce nitrogen, phosphorus and sediment pollution from agriculture entering the water environment is also strongly dependent on land use and management decisions (see [Chapter 4](#)).

Government is committed to maintaining food production.⁶⁸⁰ Partly driven by major global events such as the Covid-19 pandemic and Russia's invasion of Ukraine, food prices have more than trebled in recent years (2021 to 2025) compared to the last decade (2011 to 2021).⁴⁰ Farmers are also having to adapt to the impacts of climate change, with increasingly frequent extreme weather events and climate impacts expected to accelerate (see [Chapter 8](#)). The new Food Strategy includes a wide range of objectives (supply chain resilience, economic growth, health and environmental sustainability) that have implications for land use and management.⁴⁰

The relationships between land functions and their outcomes are complex and often depend on the specific management approach or context. A key consideration is whether land functions are synergistic with the same land area contributing to a range of objectives (for example, through multifunctionality), or if there are inherent conflicts that require them to be kept separate.⁸⁹¹

Government recently assessed the land use and management changes required to meet EA21 targets and net zero, while maintaining food production. It categorised changes based on different degrees of multifunctionality – ranging from minor changes to agriculture use, to fully transitioning agricultural land to non-agricultural land to deliver environmental benefits. It estimated that by 2050 around 9% of England's farmland should transition to fully providing environmental benefits, with a further 10% to providing a mix of environmental benefits and food production. Food production was assumed to be maintained through productivity improvements.⁶⁸⁰

In total, this equates to around 12% of England's total land area changing use to prioritise greater provision of ecosystem goods and services. However, government's analysis did not assess the land use changes required to achieve the EA21 nature targets that are outcome-based, namely the 2030 species abundance target and long-term target to reverse the decline in species abundance. Nor did it clearly consider the land use change needed to address some key environmental pressures, for example nutrient pollution from agriculture.³⁴⁵

Government recognises the increasing demands on land and has positioned the LUF as a toolkit to support strategic land use decision making.⁶⁸⁰ It is a non-prescriptive framework, but it must be an integral and influential framework to bring much needed coherence to land use policy and its implementation.

13.2. Improving land use policy coherence across government

Much of the UK's land is privately owned, yet it delivers public goods such as food, clean water, biodiversity and flood mitigation.⁸⁹² Motivating landowners to deliver these requires appropriately designed policy incentives and delivery mechanisms as well as relative certainty over the future direction of policy to support uptake.

The current policy landscape affecting land use has developed over decades. New policies are seldom designed on a blank slate. They usually build on existing ones through a process of ‘policy layering’ resulting in policy mixes that can be challenging for governments to coordinate because of incoherencies.

These incoherencies were a key issue identified in our wider work including our analysis of the implementation of the Water Environment (Water Framework Directive)(England and Wales) Regulations 2017 and River Basin Management Plans, our review of LNRSs, and in our National Planning Policy Framework (NPPF) consultation response.^{316,66,893} In its recent report on ‘Environmental sustainability and housing growth’, the Environmental Audit Committee (EAC) highlighted issues in relation to cross-governmental working and data sharing concerning land use and made recommendations regarding the need for greater alignment of spatial planning and land use.⁸⁹⁴

The first step in assessing policy coherence is identifying which policies influence land use and how. As policies do not work in isolation but interact, influence, affect, or rely on each other, understanding these interactions and interdependencies is essential to prioritise areas where coherence is most needed. This includes coherence across policy areas (horizontal coherence) and across governance levels (vertical coherence).

An initial mapping of the policy landscape across six policy domains – nature, food, climate, nature markets, planning and devolution – identified and categorised 49 policies that influence land use (see Methodological Statement for details). These included national strategies, local place-based strategies and plans and governance frameworks. They also included key delivery incentives that drive on-the-ground land use decisions either through financial reward (public funding, markets and the policies shaping them) or compliance (regulatory). In addition, there are planning frameworks that directly shape local plans and influence land use decisions. Devolution in England will also affect the balance of local and national influence over land use.

While our analysis was not comprehensive, it illustrates the wide range of policies that influence land use. This means potential misalignments between policy areas are inevitable given their different goals. Given the broad policy landscape, we identified four priorities for improving coherence of land use policies with a focus on nature. This will be essential to achieve the scale of land use change needed for nature recovery and addressing synergies or trade-offs.

Coherence between nature policies

There are a broad range of strategies related to nature that operate at various spatial scales. This includes policies that directly support biodiversity – for example, the National Biodiversity Strategy and Action Plan for 2030, LNRSs and River Basin Management Plans amongst others.⁷¹ It also includes policies aimed at reducing direct pressures on biodiversity such as air and water pollution.

A central aim of biodiversity policy is realisation of the Lawton Principles – more, bigger, better and joined up ecological networks.⁷² A key element of which is conserving and restoring protected sites and landscapes, such as Sites of Special Scientific Interest and Protected landscapes, which are important areas due to their species richness, rare habitats, or public value (see Chapters 2 and 11). Place-based mechanisms are also important with River Basin Management Plans operating at catchment scale and LNRSs at an overlapping responsible authority level.

Delivery of nature policies occurs through multiple mechanisms. State-led subsidies, particularly environmental land management schemes (ELMs), provide financial rewards for certain land uses and management practices. These sit alongside regulatory tools that mandate consideration of environmental impacts, management practices and processes, such as Environmental Assessments, the Conservation of Habitats and Species Regulations 2017, and farming regulations.

Alongside this, private environmental markets are emerging – including Biodiversity Net Gain, Nutrient Neutrality approaches and carbon-based markets such as the Woodland Carbon Code and Peatland Code. Government’s Nature Markets Framework and British Standards Institution Standards support these (see [Chapter 12](#)).

These mechanisms overlap and interact to affect decisions on land use. However, rather than reinforcing one another, they often operate in isolation. The result is inefficiency, trade-offs between objectives and missed opportunities to realise co-benefits. There is a need for government to set out how major nature policies and programmes align and work together.

Place-based strategies such as LNRSs might align with local plans within the same geographic areas, however our review of 12 emerging LNRSs found that they seldom connect across administrative boundaries – limiting their potential to create a coherent Nature Recovery Network. Our review also found that coherence with other relevant local plans and strategies was often achieved through conflict avoidance – rather than by demonstrating how to deliver integrated, multi-beneficial land uses or solutions, or ensuring nature recovery would have weight in decision-making where tensions exist.⁶⁶

In government’s response to our report, it committed to producing a combined national map of nature recovery actions proposed by LNRSs to provide a vision of potential nature recovery across England. The intention is that this will enable evaluation of identified opportunities against national targets and goals.⁸⁹⁵ This is welcome but further clarity is needed as to how it will interact with other national spatial plans such as the LUF.

This fragmentation extends to ELMs which do not align or interact coherently with other delivery mechanisms at a local scale such as LNRSs, and nature market frameworks. While government has told us that LNRSs will be used to inform the work of Natural England, Environment Agency and the Forestry Commission, including in relation to grant making, regulation and land management, we have yet to see this translated into their operational plans.

The EIP25 is of critical importance for improving coherence across nature-related policies and clarifying how legally binding targets will be delivered. As the overarching plan, it should provide the framework that links together the long-term outcome targets with interim targets and their delivery plans. However, the EIP23 lacked systematic assessment of interdependencies, synergies and trade-offs across policies, or consideration of how land use changes could influence multiple policy objectives.

The EIP25 and LUF must work together to ensure a genuinely integrated approach to land and nature management. Moves to develop Local Environmental Improvement Plans through devolution could build on LNRSs to improve coherence across fragmented local environmental plans.⁸⁹⁶ Together this would strengthen both the horizontal and vertical coherence of land use and nature policies.

Coherence between nature and food policies

Farming occupies around 70% of the UK land surface.⁸⁹⁷ It is central to realising environmental outcomes as well as food security and supporting rural economies. The Food Strategy for England aims to make the food system healthier, more affordable, sustainable and resilient. It sets out ten priority outcomes and brings together a wide array of actions from across government (spanning production, health, trade, and the environment) and explicitly links these to the outcomes in supporting annexes.⁴⁰

Crucially, the Food Strategy identifies that it must interact with a number of other closely related strategies: the Agricultural Transition Plan, the Farming Profitability Review, and Farming Innovation Programme, which support modernisation and productivity; the Net Zero Strategy, and the Carbon Budget Delivery Plan, targeting emission reductions from agriculture; and wider cross-cutting frameworks, including the Circular Economy Package, the UK Industrial Strategy, and trade policy.^{278,353,656,898-901}

To achieve this effectively, the scale of coordination needed across government is considerable. The Food Strategy acknowledges the complexity of ensuring that the drivers, incentives and feedback loops are aligned to move the system in the right direction.⁴⁰ Considering the scale of land demand for food production and environmental objectives, there is a high risk of competing for the same land (see [Chapter 12](#)).

However, there are also synergies, where sustainable land management supports biodiversity, water and climate goals. There can also be conflicts when intensive practices – for example, heavy use of fertilisers, pesticides, or water abstraction – degrade ecosystems and accelerate loss of nature-based carbon sinks (trees and peatlands).

Yet trade-offs are not inevitable if strategic land-use planning, coupled with targeted support for farmers, can achieve more sustainable land management. For example, regenerative and agro-ecological approaches reduce inputs while supporting wildlife. The Dasgupta Review was clear – a failure to integrate food and biodiversity policy risks locking in ecological decline, and economic vulnerability.⁸

The Food Strategy should develop close alignment with the EIP review cycle and the long-term road map for agriculture. Linking it to the LUF is a key priority as this would support a genuinely integrated approach to land use where farming supports national goals for food security, biodiversity, and decarbonisation.

Coherence between nature and climate policies

Climate policy is central to shaping land use. The statutory Climate Budget Delivery Plan and the National Adaptation Programme provide overarching frameworks for mitigation and adaptation, respectively.¹⁴⁶ The Nature and Climate Fund has been a key delivery mechanism for scaling up woodland creation and peatland restoration (see [Chapter 8](#)).⁸³

Coordinating planning for nature-based solutions – trees, peatland restoration and habitat creation – can realise the multiple benefits they deliver such as reducing emissions, sequestering carbon, building natural resilience to climate impacts, and protecting and restoring ecosystems.

Aligning energy infrastructure planning with wider land use priorities is also important. The land footprint for grid expansion and renewables is expected to be relatively small. Trade-

offs can be avoided by not situating developments in areas of high ecological sensitivity, or highly productive farmland. Tools to inform decision making include the National Energy System Operator's power sector scenario planning, the Strategic Spatial Energy Plan, and the Resilience Action Plan.⁹⁰²⁻⁹⁰⁴

The LUF will need to interact closely with these policy frameworks to ensure strategic planning and alignment across sectors and coordination with nature policies.

Coherence between nature and the planning system

The planning system is one of the most powerful levers for shaping how land is used in England. Local government plays a central role, preparing Local Plans, making planning decisions, and enforcing against unauthorised development.⁹⁰⁵ National planning policies are set out in the National Planning Policy Framework (NPPF) and National Policy Statements for Nationally Significant Infrastructure Projects (NSIPs).⁹⁰⁶ These are further supported by Planning Practice Guidance.⁹⁰⁷

When used effectively, the planning system can ensure development is avoided on the best and most versatile farmland, floodplains, and priority conservation sites and avoids conflict with environmental and food objectives. However, poor planning risks pitting priorities against one another. For example, housing development can damage important habitats if badly sited.

Historically the planning system has been largely separated from broader land use and environmental policy. Since the Town and Country Planning Act 1947, development decisions (for example, whether land is built on or not) have operated separately from decisions about how wider land is managed, such as farmland, woodlands or wetlands.⁸⁹¹ The result is a system where planning decisions cover a relatively small share of land. Decisions affecting wider land are made through a mix of agricultural, environmental, and sectoral policies and a complex governance system of plan making and decision taking, which lacks transparency.

Current planning tools, such as the NPPF and Environmental Assessment requirements, also tend to focus on managing harm from development, rather than actively planning for recovery.⁹⁰⁸ Biodiversity Net Gain does require a minimum 10% increase in biodiversity value compared to pre-development levels, but the majority of actions are offsetting biodiversity impacts.²⁶

LNRSs are intended to provide a spatial framework for guiding local nature restoration. However, their weight in the planning system is unclear, as the NPPF does not currently include sufficient information on LNRSs or the LUF and how they should be considered. There is also a lack of clarity about how they should be delivered, and poor coherence with wider national programmes.⁶⁶ In its response to our report on LNRSs, government committed to consult on further updates to the NPPF, which will include policy on the role of LNRSs in planning. It also provided some further detail in respect of delivery, and stated that the EIP25 will bring further clarity.⁸⁹⁵

The planning system alone cannot resolve all conflicts between housing, infrastructure, food, and nature. It must work coherently alongside the forthcoming LUF, which offers a vital opportunity to fill the gap in coordinating land use decisions and policy incentives. Furthermore, the LUF must be implementable at a local scale, and ensure recent planning

reforms are coherent with wider nature recovery policies. These represent a shift in planning regulations from protection to supporting larger-scale restoration.

The Planning and Infrastructure Bill introduces a more strategic approach to mitigation.²³ Developers will be able to meet their environmental obligations through contributing to a Nature Restoration Fund, administered by Natural England. In doing so, investment and action will shift away from individual site-based mitigation towards catchment or landscape-scale solutions. The Nature Restoration Fund will finance conservation measures set out in Environmental Delivery Plans.²² The conservation measures must ‘materially outweigh’ the negative effects of development, which is intended to help nature’s recovery. Early priorities include addressing nutrient pollution from urban wastewater resulting from new housing.

If well designed, this approach could channel development finance into land use change that supports both climate and biodiversity goals. However, there are risks. Without clear alignment to national land use priorities, these funds could deliver fragmented or low-value outcomes. Strong additionality tests will also be essential to ensure that the conservation measures genuinely add to rather than substitute for existing delivery plans and nature recovery requirements. The focus must be on how they align and complement efforts to conserve and restore protected sites and landscapes, while supporting access to nature (see [Chapter 11](#)). We also note the recent recommendation of the EAC in calling for further reassurances in respect of the NRF.⁸⁹⁴

The planning system, LUF and LNRSs must work together to make the best use of finite land, managing competing demands and ensuring development contributes positively to nature recovery and climate action.

13.3. Mechanisms for reconciling competing demands on land

The complexity of the policy landscape as illustrated by our analysis makes improving policy coherence and managing competing demands a challenging task. However, many of the tools and mechanisms needed to do so are already in place, or in train.

Policy coherence – the role of the Environmental Principles Policy Statement

Firstly, it is essential to achieve greater coherence and integration of environmental outcomes at the strategic policy level from the outset. An important tool to assist government already exists in the form of the legal duty to have due regard to the Environmental Principles Policy Statement (EPPS).

The intention of the EPPS duty was to put the environment at the heart of government policy-making.²⁴ The integration principle promotes the integration of environmental considerations into all policy decision making. It is particularly important in mainstreaming EIP goals and targets across policy areas. Consideration of the EPPS duty can assist policy makers in identifying and achieving benefits for the environment, rather than simply seeking to avoid or reduce environmental harms.

We have already identified where implementation of the EPPS duty could be strengthened, such as by embedding it into wider policy and decision-making frameworks, such as the Green Book and supplementary guidance. There is a longstanding commitment by government to incorporate the EPPS duty into the Green Book.⁹⁰⁹

The need for transparency is also fundamental. By sharing how the EPPS has been considered throughout the policy-making process, government can evidence the steps it is taking to achieve its multiple ambitions that require land. For example, how it intends to achieve a ‘win-win’ for nature recovery and development. The more coherence can be strengthened at the strategic level, the fewer conflicts and tensions there should be in policy design and delivery at the local and site-based scales.

In addition to the EPPS duty there are a range of other cross government tools that can strengthen consideration of the environment in the policy making process. These include guidance on enabling a natural capital approach which can inform development of a business case and navigating spending reviews, as well as the requirement to explain contributions to EA21 targets.⁹¹⁰ In addition, there are long-running cross-government forums, such as the Whitehall Natural Capital Group and the EIP Delivery Board, where departments work together to ensure that environmental considerations are embedded.

Spatial prioritisation – the role of LNRS and the LUF

The second priority is ensuring that necessary frameworks for spatial prioritisation of land use exist and effectively operationalise policy, whilst aligning to other relevant spatial strategies, plans and tools.

The LUF will be a critical mechanism for enabling strategic land use planning and alignment of land use policies. However, its effectiveness will depend on how it interacts with other policies and tools, and it is currently unclear how influential it will be across government. It is primarily focused on managing trade-offs and synergies across food and environmental objectives. Whilst we welcome the intelligent decision-making principles – which include multifunctional land – without meaningful influence in decision-making processes, its ability to support coherent strategic spatial planning and policy making will be hindered. Government needs to provide more direction on how the LUF should inform strategic and local planning and the weight it should be given in decision making through any updates to the NPPF and in the final version of the LUF.³⁴⁵

At the local level, LNRSs will form an important part of the picture in terms of spatial prioritisation for nature and wider environmental benefits. Government has also committed to producing a combined national map of nature recovery actions proposed by LNRSs which will illustrate a vision of potential nature recovery across England.⁸⁹⁵ However, our report sets out how more can be done to improve the coherence of LNRSs and clarify the relationship between these local strategies and those national spatial tools and strategies such as the LUF.⁶⁶

However, the LUF and LNRSs do not present a comprehensive picture of the pressures on land use. They need to interact with other spatial tools. For example, the National Land Data Programme which explores how data and modelling can better support land use decision-making at different scales; and the National Infrastructure Spatial Tool which explores infrastructure needs, such as energy, water, transport and digital telecoms, at local authority level – ranking locations in terms of need for each land use type.^{911,912} The Environmental Audit Committee has recommended the creation of a shared geospatial and environmental data platform for use across national and local government and arm’s length bodies to assist in decision-making and collaboration.⁸⁹⁴

Decision-making frameworks

Finally, at the national level, the decision-making frameworks that affect land use need to actively support those responsible for strategic and local planning (including Spatial Development Strategies, Local Plans and planning decisions). To do this effectively they need to be accurate and up to date and reflect the latest policy positions in a timely way. They need to actively guide policy makers and decision-takers toward synergistic opportunities. They also need to provide an evidence-based and transparent methodology for the prioritisation and management of trade-offs. For example, JNCC have developed an analytical pipeline for spatial prioritisation in England that can help local decision-makers combine data, and discuss priorities, for multi-functional land management.

The NPPF sets the overarching framework for local planning. There is opportunity to strengthen the NPPF in future revisions to clarify how the various policies, strategies and plans should be taken into account in different contexts, and their relative weight in the planning system. Updates that government has committed to will need to consider not just LNRSs, but also the LUF and other nature-related matters to come out of the Planning and Infrastructure Bill, such as Environmental Delivery Plans.⁸⁹⁵ We have previously made recommendations regarding the need to achieve greater alignment of planning policy with environmental objectives and also note the recent recommendations of the EAC in this regard.⁸⁹⁴

Looking ahead, in principle there are clear opportunities across the policy landscape related to land use to strengthen cross government coordination and collaboration and improve coherence from the strategic policy level through to local decision making. In practice, achieving this will require government to strengthen how coherence is addressed in policy development as well as identifying, mapping, and making use of connections between policies to harness synergies, deal transparently with trade-offs and support decision making. However, much can be achieved with the tools and mechanisms already in place by simply ensuring they are robust, fit for purpose and effectively implemented.

IV. Taking stock



Chapter 14: Taking stock

14.1. The overall picture

The preceding chapters provide an overview of past trends, progress within the annual reporting period and prospects of meeting ambitions, targets and commitments. These are brought together here to provide the overall picture structured by the 10 goal areas of the EIP23.

Viewed against the aim of significantly improving the natural environment, our summary assessment is that while more progress has been made this year compared to last, very substantial challenges remain and government remains largely off track to meet EA21 targets and EIP23 ambitions, targets and commitments ([Figure 14.6](#)).

Environmental trends

Our assessment of 59 recent trends shows that 24 are improving, 11 are static, 16 are deteriorating and eight were not assessed due to data availability ([Figure 14.1](#)). These proportions are broadly similar to last year with improving and deteriorating trends observed across most EIP23 goal areas.

In relation to the natural environment, while there are signs that the downward trajectory in England's species abundance has levelled out, the abundance of wild and farmland birds continues to decline (see [Chapter 2](#)). The overall state of the water environment remains concerning (see [Chapter 4](#)), with declining biodiversity and continued habitat degradation in the marine environment (see [Chapter 2](#)).

The area of land under agri-environment schemes continues to increase along with the area of land cover likely to support large-scale nature-friendly habitats. However, a continuing decline in the condition of protected sites prevents the creation of a coherent and resilient ecological network (see [Chapter 2](#)).

Pressures on biodiversity persist, with deteriorating trends continuing to be observed for direct drivers of biodiversity loss, such as invasive non-native species (see [Chapter 10](#)). Pollution in the form of damaging levels of nitrogen deposition on sensitive habitats shows little to no change (see [Chapter 3](#)).

When it comes to reducing overall levels of pollution, improving trends continue regarding reductions in specific air pollutants (see [Chapter 3](#)), specific chemicals (see [Chapter 5](#)) and greenhouse gases (see [Chapter 8](#)). However, the number of pollution incidents in water has increased (see [Chapter 4](#)).

Overall trends in patterns of production and consumption are not encouraging. In the short-term, resource productivity has decreased while the raw material footprint has increased (see [Chapter 6](#)) and there continues to be little change in England's carbon footprint (see [Chapter 8](#)). Residual waste generation has remained stable and household recycling rates have decreased (see [Chapter 6](#)). However, water consumption has decreased (see [Chapter 4](#)).

Regarding sustainable use of natural resources, the percentage of fish and shellfish stocks harvested sustainably continues to improve but the percentage of woodland that is sustainably managed continues to decrease (see [Chapter 7](#)).

In relation to human health and wellbeing, improving trends continue to dominate for air quality, but exceedances of nitrogen dioxide, ozone and nickel standards persist (see [Chapter 3](#)). The condition of bathing waters is deteriorating (see [Chapter 4](#)).

There are deteriorating trends in reducing risks from environmental hazards. The estimated number of properties at risk of surface water flooding has increased along with a decrease in the condition of flood or coastal risk management assets. Wildfire incidents continue to increase (see [Chapter 9](#)).

In terms of engagement with the natural environment, while the frequency of adults' visits to the natural environment and levels of pro-environmental behaviour remain relatively stable, deteriorating trends continue to be observed for children (see [Chapter 11](#)).

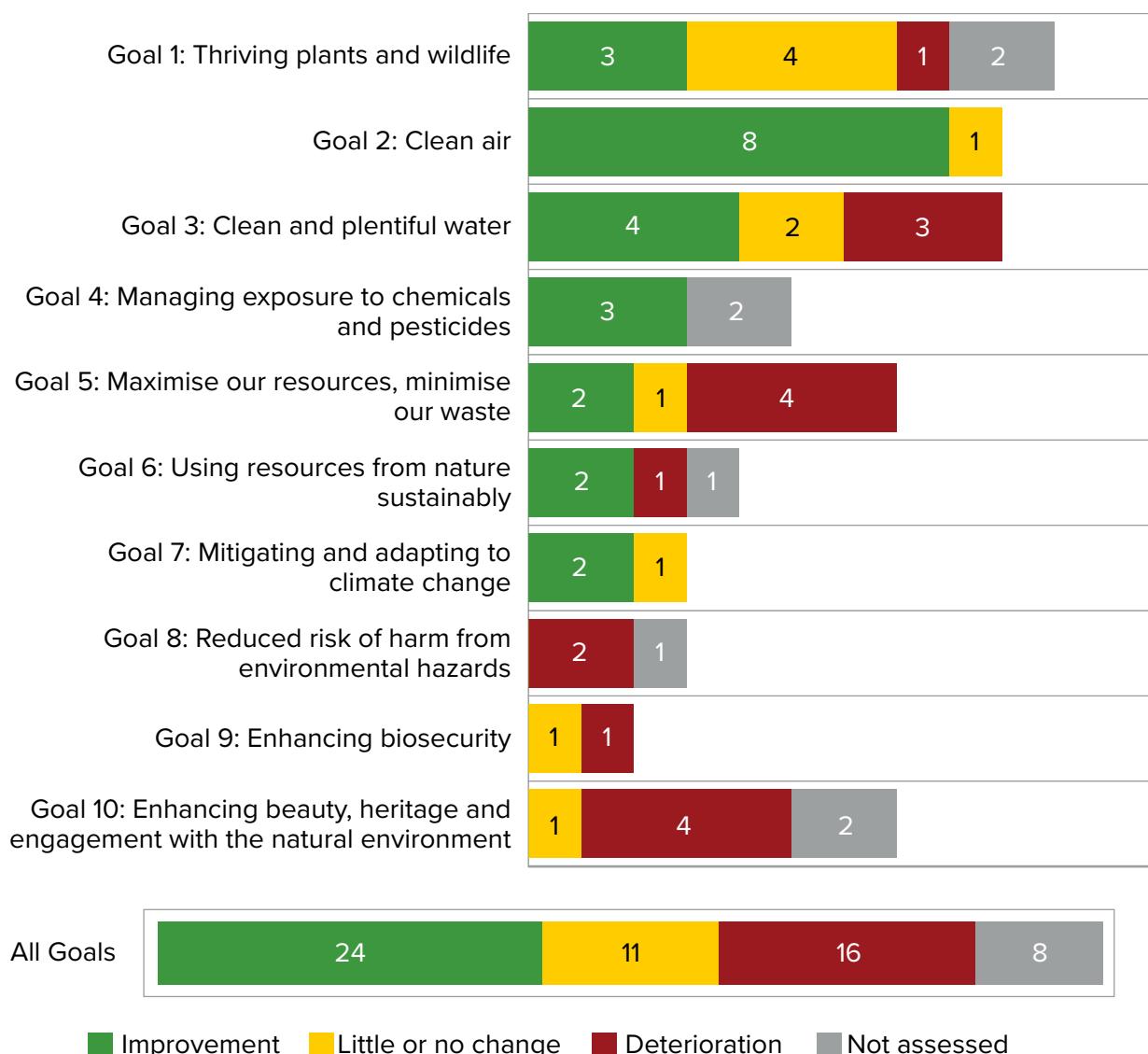


Figure 14.1. Summary of the OEP's assessment of 59 trends in 55 environmental indicators in the 10 goal areas of the EIP23. Green indicates improvement, amber is little or no change, red is deterioration and grey is not assessed.

There have been improvements in the assessment rating of three trends. Per capita potable water consumption in England has changed from deterioration to improvement. Non-household water demand and the extent of land cover more likely to support nature-friendly habitat have both changed from little or no change to improvement.

Assessment ratings have got worse for six trends. Resource productivity has changed from improvement to deterioration. The loads of three key pollutants discharged to rivers from water company sewage treatment works and the number of additional tree pests and diseases becoming established have both changed from improvement to little to no change. The condition of bathing waters and the frequency of time spent outside in the last week by children during school term have both changed from little or no change to deterioration. The soil nutrient balance has changed from improving to deterioration.

The assessment of individual trends forms part of our overall assessment of trends at the level of the 10 goals of the EIP23, where we conclude improving trends dominate in two goal areas (clean air and climate mitigation), deteriorating trends dominate in three goal areas (reduced risk of harm from environmental hazards, enhancing biosecurity and enhancing beauty, heritage and engagement with the natural environment) and for the other five goal areas and for climate change adaptation, trends are mixed. Compared to our 2023/2024 progress report, the goals of reduced risk of harm from natural hazards and enhancing beauty, heritage and engagement with the natural environment have changed from showing mixed trends to deteriorating trends dominating ([Figure 14.6](#)).

Progress during the annual reporting period

We assessed progress during the annual reporting period towards meeting 43 individual targets and commitments, as well as overall progress by EIP23 goal area.

Our assessment of progress towards 43 individual targets and commitments is that good progress has been made over the annual reporting period towards 12, mixed progress towards 19 and limited progress towards 12 ([Figure 14.2](#)).

In relation to the natural environment, progress towards achieving a growing and resilient network of land, inland waters and sea that is richer in plants and wildlife was mixed. While progress was good on woodland creation and wildlife-rich habitat restoration or creation, it continues to be more limited across wider actions and policies essential to nature's recovery, including ELM and freshwater and marine environments (see [Chapters 2](#) and [4](#)).

Good progress has continued with tackling specific sources of water pollution (see [Chapter 4](#)), specific chemical pollutants (see [Chapter 5](#)) and greenhouse gases (see [Chapter 8](#)).

There was limited progress in relation to patterns of production and consumption, including improving resource productivity and eliminating avoidable waste (see [Chapter 6](#)) and more sustainable use of natural resources (see [Chapter 7](#)). However, there was good progress in relation to reducing potable water demand (see [Chapter 4](#)).

In relation to human health and wellbeing, there was mixed progress regarding some air pollutants (see [Chapter 3](#)) and limited progress in reducing the risk from exposure to high temperatures (see [Chapter 9](#)). Although good progress continues to be made on improving protection from flooding and coastal erosion (see [Chapter 9](#)) and enhancement of landscapes (see [Chapter 11](#)).

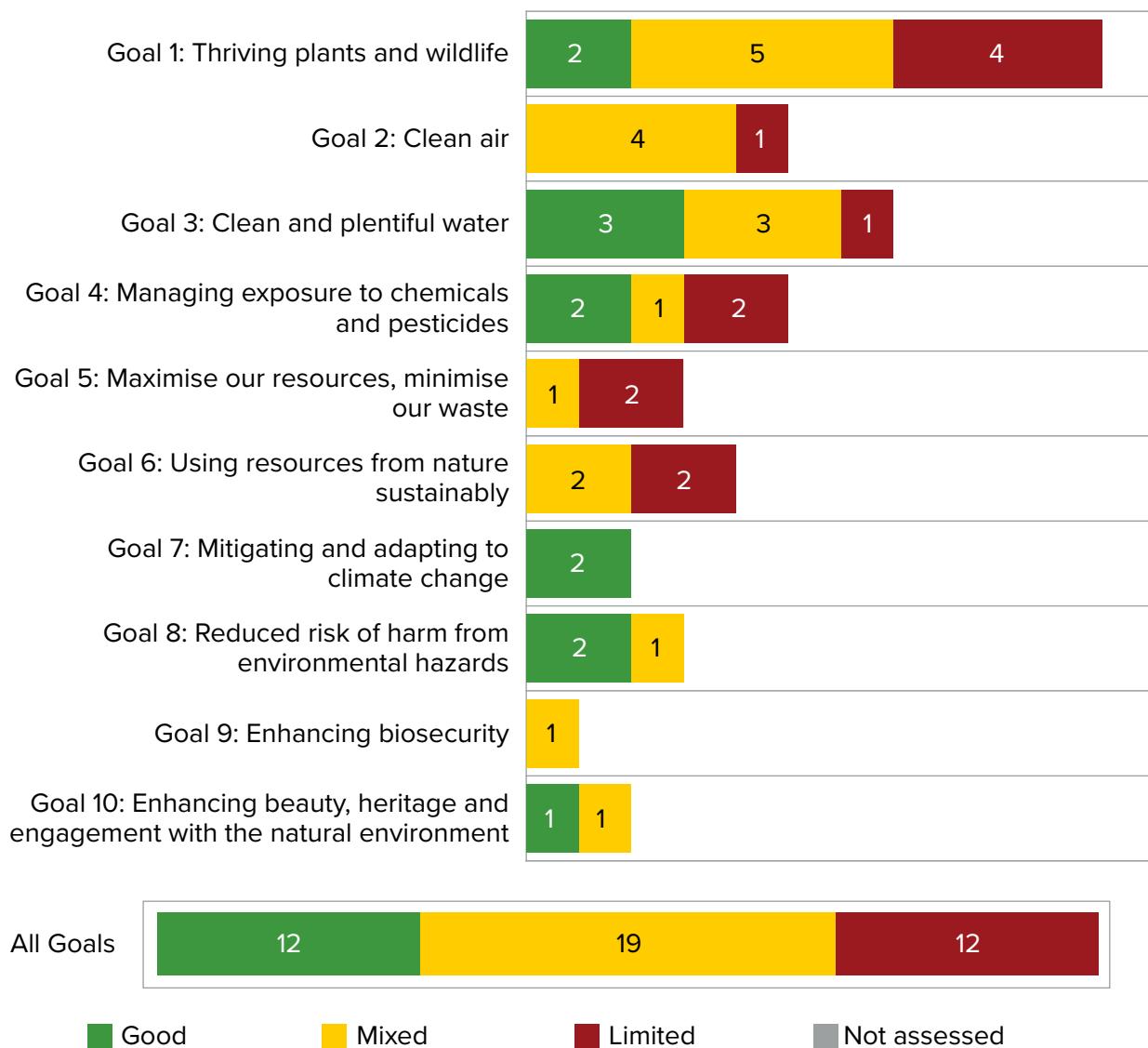


Figure 14.2. Summary of the OEP's assessment of progress over the annual reporting period towards 43 environmental targets and commitments. Green indicates good progress, amber is mixed progress, red is limited progress and grey is not assessed.

When compared to our 2023/2024 progress report, a higher proportion of targets and commitments show good progress and a lower proportion show limited progress.

There have been improvements in the assessment rating of seven targets and commitments. Progress has improved in relation to restoring protected sites to favourable condition, clean air targets, maintaining major flood and coastal erosion risk management assets, managing persistent organic pollutants (POPs) and net zero emissions.

Assessment ratings have got worse for two targets with less progress on reducing land-based emissions of mercury and water pollution from abandoned metal mines during this annual reporting period than the previous.

Of the 13 EA21 targets, our assessment is that good progress has been made over the annual reporting period towards four, mixed progress towards seven and limited progress towards two (Figure 14.3).

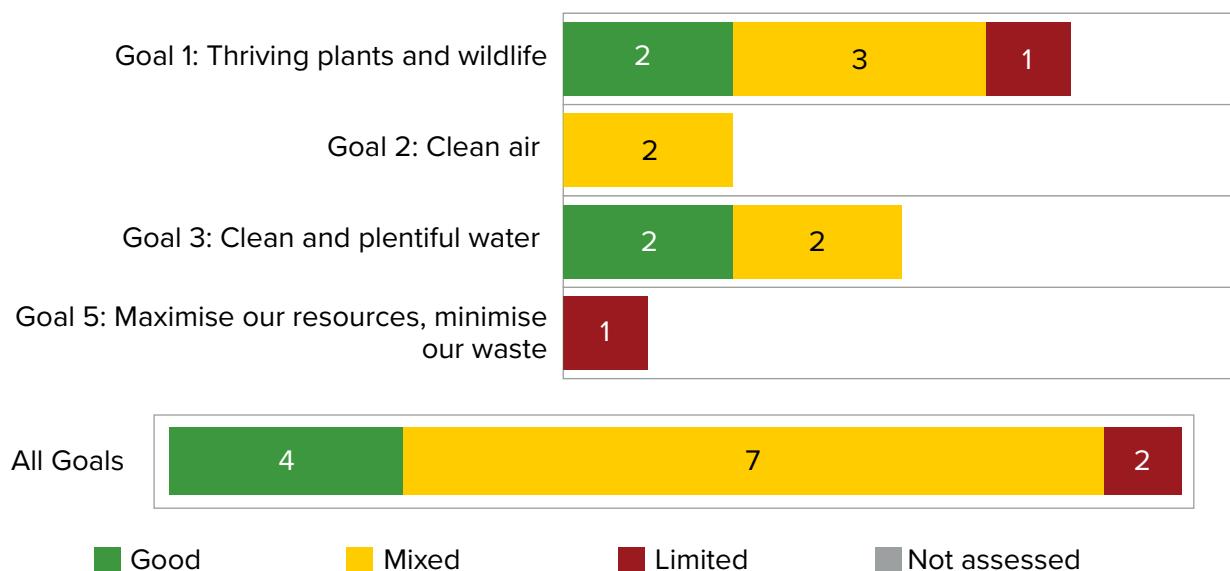


Figure 14.3. Summary of the OEP's assessment of progress over the annual reporting period towards EA21 targets. Green indicates good progress, amber is mixed progress, red is limited progress and grey is not assessed.

There was improved progress in relation to the long-term wildlife-rich habitat restoration or creation target and the 2050 target for woodland and trees outside woodland. However, there was less progress in relation to the target for the condition of protected features in relevant MPAs and the abandoned metal mines water target.

The assessment of individual targets and commitments forms part of our wider assessment of progress at the level of the 10 goals of the EIP23, where we conclude that progress was mixed in eight goal areas and for climate change mitigation and limited in one and for climate change adaptation (Figure 14.6).

Compared to our 2023/2024 progress report, there is improvement in relation to the goals of clean air, managing exposure to chemicals and pesticides and climate change mitigation where progress has changed from limited to mixed.

Prospects

Informed by our assessment of trends and progress, we assessed the prospects of meeting 43 individual targets and commitments, as well as overall prospects by EIP23 goal area.

Our assessment of prospects of meeting 43 individual targets and commitments is that government is largely on track towards meeting five, partially on track towards meeting 16 and largely off track towards meeting 21, while the prospects of meeting one target could not be assessed due to a lack of sufficient evidence (Figure 14.4).

Areas where prospects of meeting targets or commitments are largely on track are the same as last year and relate to specific air pollutants such as PM_{2.5} (see [Chapter 3](#)), specific sources of water pollution such as phosphorus loadings from wastewater (see [Chapter 4](#)),

chemical pollution such as land-based emissions of mercury (see [Chapter 5](#)) and specific greenhouse gases such as hydrofluorocarbons (HFCs) (see [Chapter 8](#)).

In relation to the natural environment, while the prospects of achieving the 2030 species abundance target and nature-friendly farming commitments are partially on track, prospects relating to wider actions and policies essential to nature's recovery remain largely off track. This is still mostly due to continued delays and a lack of urgency in the implementation of important actions in the freshwater (see [Chapter 4](#)) and marine environments (see [Chapter 2](#)). Sustainable soil management continues to be a significant gap (see [Chapter 7](#)).

The prospects of meeting targets and commitments relating to patterns of production and consumption are largely off track (see [Chapters 6, 7](#) and [8](#)).

In relation to human health and wellbeing, while the prospects of meeting the two EA21 targets for PM_{2.5} are largely on track, it is not the case for other air pollutants (see [Chapter 3](#)). The prospects of significantly reducing levels of harmful chemicals entering the environment are largely off track (see [Chapter 5](#)) and the prospects of reducing the risk from environmental hazards are only partially on track (see [Chapter 9](#)).

The lack of progress regarding climate adaptation persists. Action is not keeping pace with increasing risk levels hindering the prospects of meeting targets and commitments across many other areas (see [Chapter 8](#)).

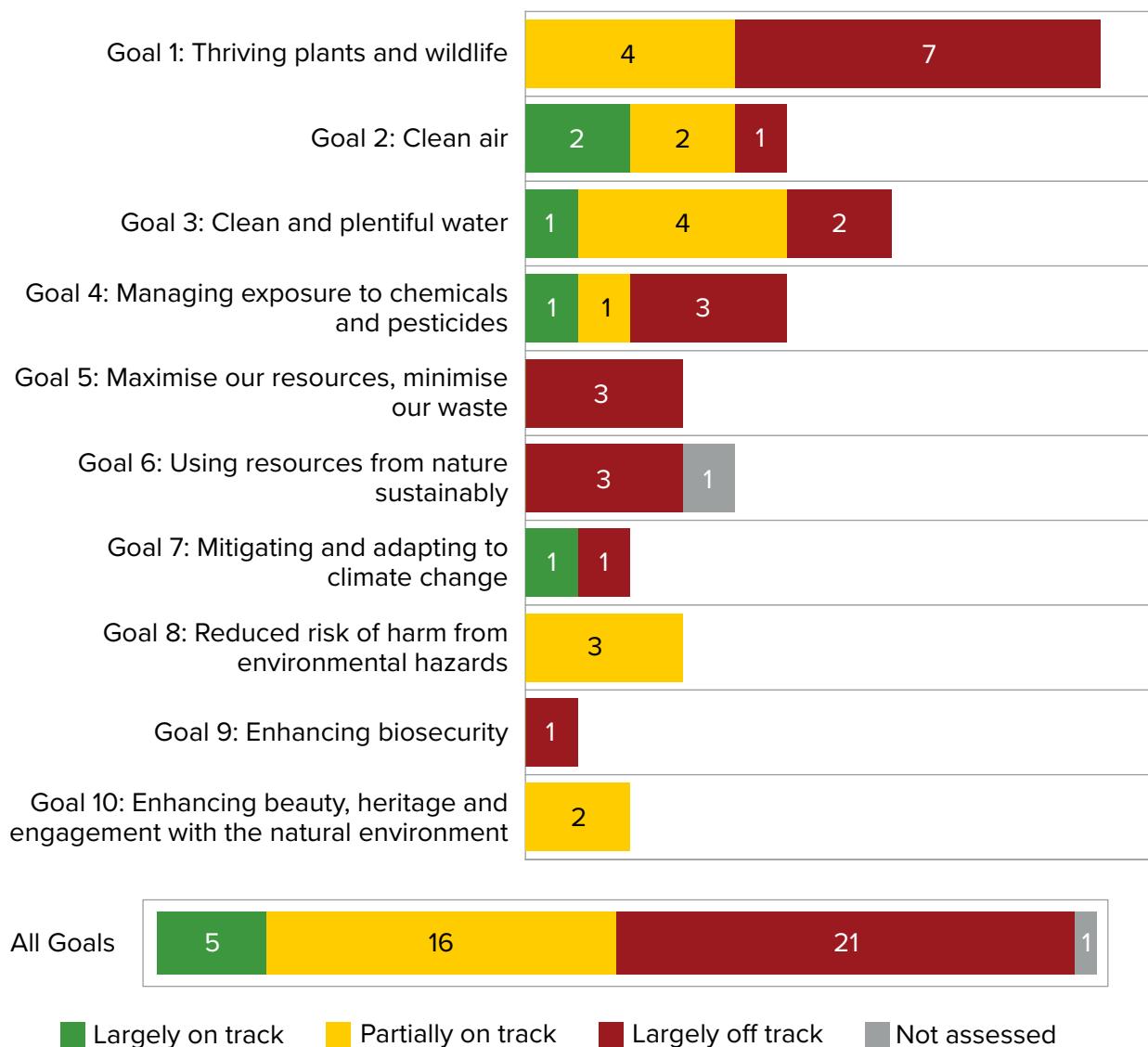


Figure 14.4. Summary of the OEP's assessment of prospects of meeting 43 environmental targets and commitments. Green indicates largely on track, amber is partially on track, red is largely off track and grey is not assessed.

When compared to our 2023/2024 progress report, a slightly lower proportion of targets and commitments are considered largely on track and a slightly higher proportion largely off track.

There have been improvements in the assessment rating of three targets and commitments relating to flooding. The prospects for meeting the commitment to eliminate waste crime and illegal waste sites has decreased.

Of the 13 EA21 targets, our assessment is that the government is largely on track for meeting three, partially on track for five and largely off track for five ([Figure 14.5](#)).

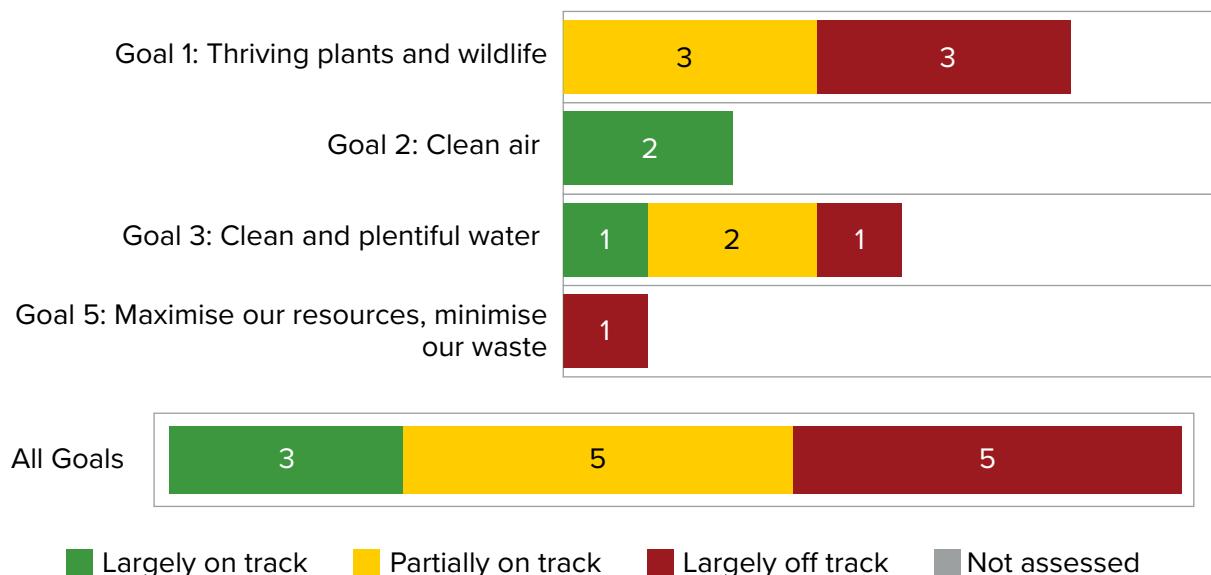


Figure 14.5. Summary of the OEP's assessment of prospects of meeting EA21 targets. Green indicates largely on track, amber is partially on track, red is largely off track and grey is not assessed.

In terms of the EA21 targets, there has been minimal change from last year. We have now been able to assess the prospects of meeting the long-term wildlife-rich habitat restoration or creation target which is partially on track.

The assessment of the prospects of meeting individual targets and commitments forms part of our wider assessment of prospects at the level of the 10 goals of the EIP23, where we conclude that in three goal areas government is partially on track, and in seven government is largely off track (Figure 14.6). Compared with our 2023/2024 progress report, our assessment ratings have not changed.

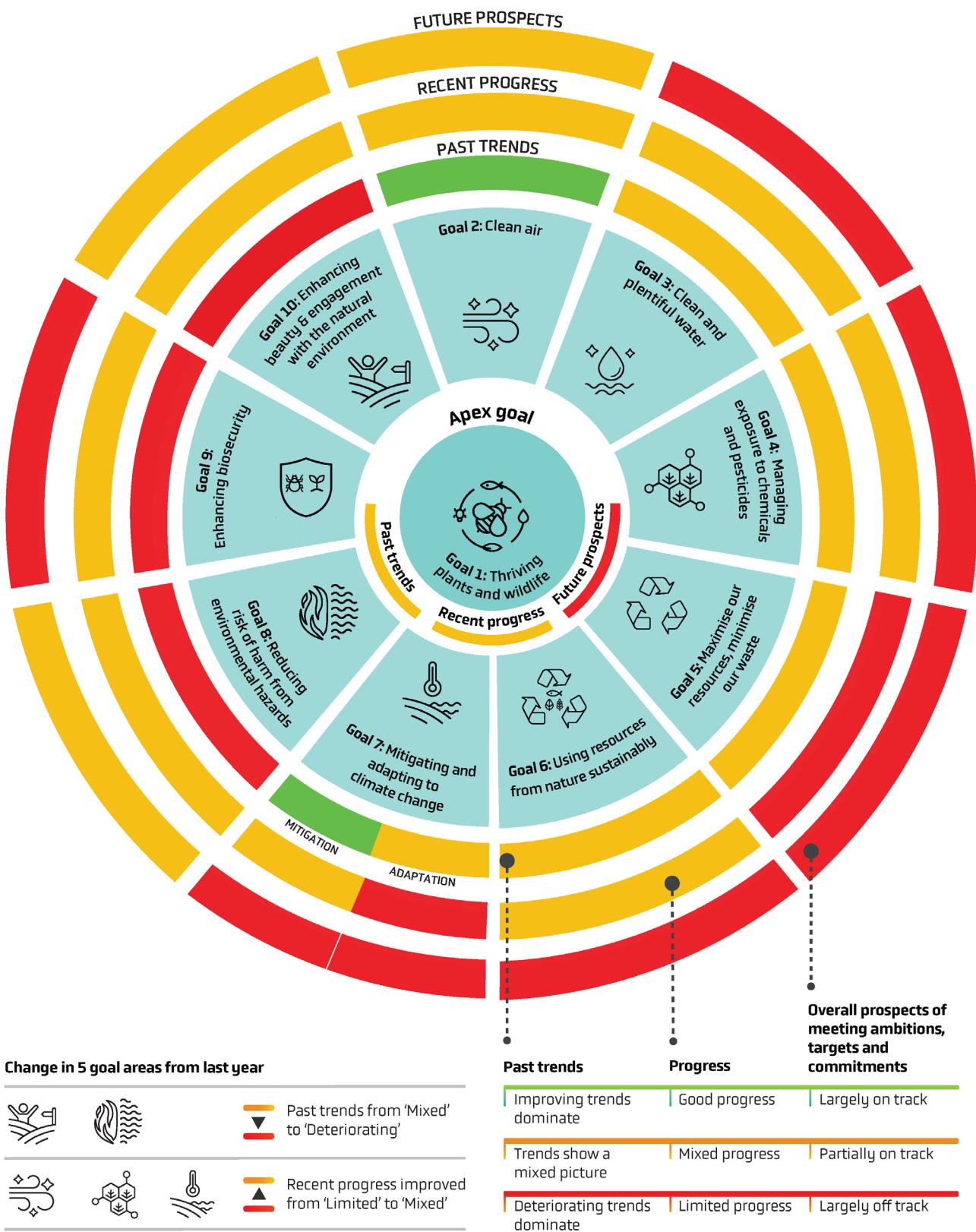


Figure 14.6. The Office for Environmental Protection summary assessment of past trends, progress for the year 2024/2025 and overall prospects of meeting ambitions, EA21 targets and other commitments, across the 10 goals of the EIP23.

Progress regarding our 2023/2024 recommendations

In our reports we identify a range of factors that are impeding progress and prospects. We also identify many opportunities for improvement and make recommendations focused on these barriers and opportunities.

In our 2023/2024 report we made eight key recommendations and 36 specific recommendations covering the EIP23 goals and selected cross-cutting areas. Of these, only five have seen good progress by government in the annual reporting period. There has been mixed progress in relation to 14, limited progress in relation to 18 and seven were not assessed ([Figure 14.7](#)).

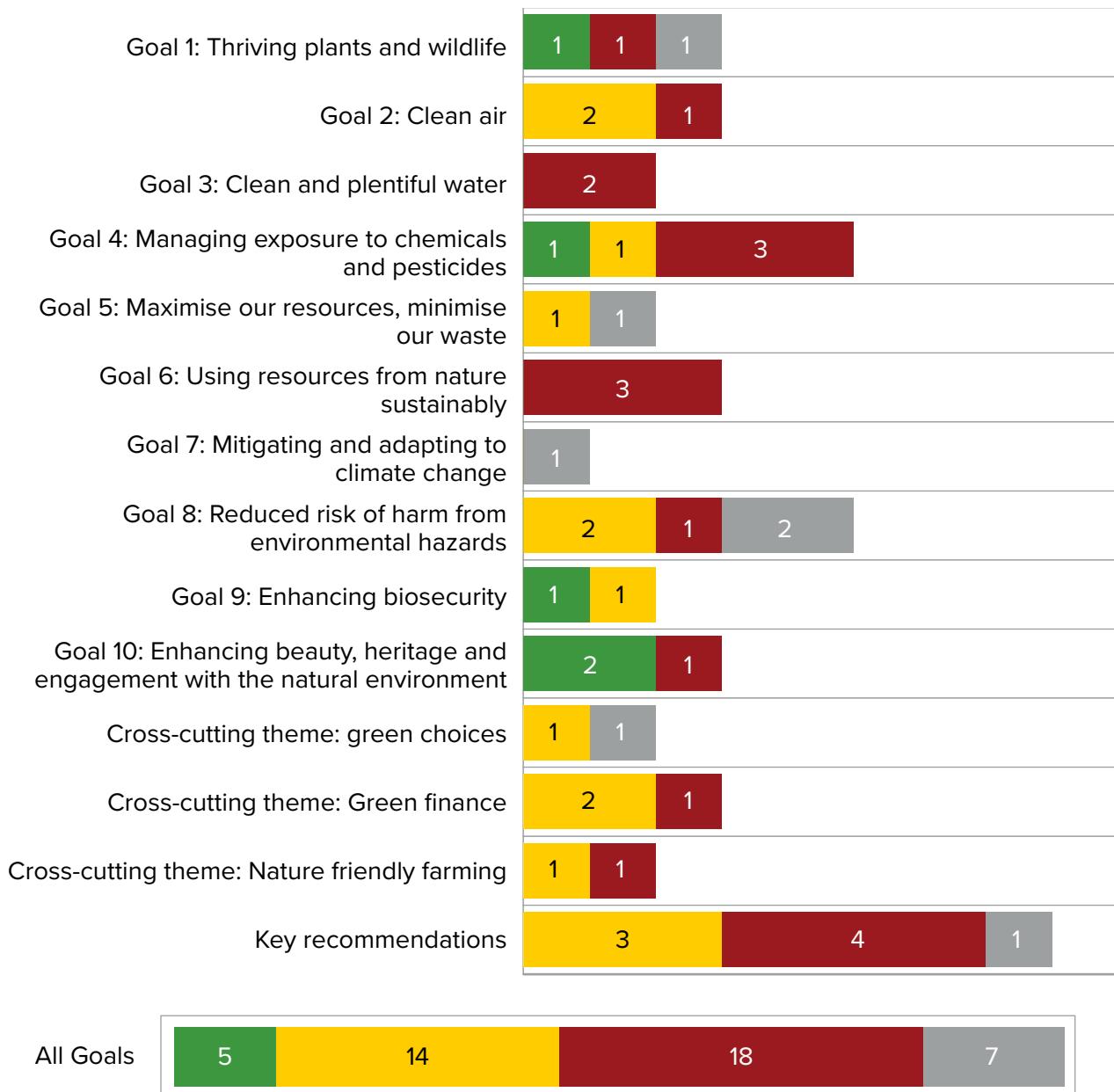


Figure 14.7. Summary of the OEP's assessment of progress in relation to the recommendations in the 2023/2024 progress report. Green indicates good progress, amber is mixed progress, red is limited progress and grey is not assessed.

We have considered government's formal response to our specific recommendations on goal areas and cross cutting themes in Chapters 2-12. While government has said it largely accepts our recommendations, it has only accepted 15. It has accepted and deferred a response to a further six, partially accepted 10, deferred a response to 11 and has rejected two recommendations.

In many cases where a response has been deferred, government has indicated that the EIP25 will clarify EA21 target delivery plans or pointed to various policy developments and pending decisions. These are also the recommendations for which we have not assessed progress but will do so after analysing the EIP25.

Our key recommendations in our 2023/2024 progress report reflected our advice on revision of the EIP and focused on priority areas for action. This year we do not make new key recommendations as our recommendations to date have addressed the main barriers and opportunities and priority areas for action. Therefore, they remain relevant and still stand.

Key recommendation 1: Get nature-friendly farming right.

We consider it essential that government strengthens engagement with farmers and landowners if it is to achieve environmental ambitions, targets and commitments. While government agrees with us that it is essential to get nature-friendly farming right, it only partially accepted our recommendation. It stated that an integrated cross-government approach to deliver new infrastructure and housing while making space for nature and water and emissions reduction is required. It points to the Land Use Framework and the EIP25 as key to achieving this. We consider that progress during the annual reporting period has been limited (see [Chapters 2](#) and [12](#)). We will continue to assess progress which requires analysis of both the EIP25 and forthcoming Land Use Framework.

Key recommendation 2: Maximise the contribution of protected sites for nature.

Protected wildlife sites make an important contribution towards achieving national and international commitments as well as providing wider benefits. Government has deferred a full response to this recommendation stating that this will be addressed through the response to the OEP report on protected sites. We consider that progress during the annual reporting period has been limited (see [Chapter 2](#)). We will assess this further after analysing the EIP25 and government's response to our report.

Key recommendation 3: Speed up action in the marine environment.

Progress across wider actions and policies essential to nature's recovery remain slow, especially in the marine environment. Government agrees that action in the marine environment is key to environmental improvement but has only partially accepted our recommendation to speed up action. While government has highlighted actions that have been taken, we consider that progress during the reporting period has been limited (see [Chapter 2](#)).

Key recommendation 4: Set out clear mechanisms for reconciling competing demands for use of land and sea.

As environmental pressures continue to grow, government has accepted and deferred a response to our recommendation. We consider that progress during the reporting period has been mixed (see [Chapter 13](#)). We will assess this further after analysing the EIP25 as government has stated that the EIP25 will set out the approach for improving the natural environment that is needed to grow the economy, develop housing, boost food security and meet environment and climate targets.

Key recommendation 5: Develop a circular economy framework.

Government has accepted our recommendation and stated that it is committed to transitioning to a circular economy. We consider that progress during the reporting period has been mixed (see [Chapter 6](#)). We welcome the plan to publish proposals for consultation in the coming months and will assess this further as the Circular Economy Strategy develops.

In addition to the five priority areas for action, we also made recommendations on three cross-cutting areas aimed at securing effective implementation of the EA21 targets and a revised EIP.

Key recommendation 6: Mobilise investment at the scale needed.

Addressing the barriers to mobilising private investment remains critical to closing funding gaps for nature goals. Government has partially accepted our recommendation. We consider that progress during the reporting period has been limited (see [Chapter 12](#)). We await government's response to its call for evidence on increasing private investment in nature recovery to assess this further.

Key recommendation 7: Regulate more effectively.

Full implementation and enforcement of existing regulations would accelerate progress. Government has accepted our recommendation. We consider that progress during the reporting period has been mixed. We will continue to assess progress as government considers the recommendations from the Corry review and identifies next steps.

Key recommendation 8: Harness the support needed to achieve ambitions.

Government needs to provide clear leadership at the highest level to ensure cross-government delivery, wider stakeholder buy-in and public support for action. Government has accepted and deferred a full response to our recommendation. We did not assess progress during the reporting period as government indicated that the EIP25 will include a more streamlined and effective plan of action linking government actions and the role of key delivery organisations. The EIP25 will also consider actions across government and wider society and how these actions interface as part of a system to improve the natural environment. We will assess this further after analysing the EIP25.

As much depends on the EIP25 and other important policy developments, we will continue to assess progress towards our standing recommendations in our next progress report.

14.2. Conclusions

Our overall assessment of progress is slightly more positive for this annual reporting period than the previous one. This reflects policy developments as well as delivery and government's attempts to address problems. Our overall assessment of prospects remains largely unchanged as we need to see how new policies are finalised, implemented as well as their impacts, particularly the EIP25.

Our assessment of progress and prospects continues to be hampered by the level of detailed information made available by government and gaps in the evidence base. The degree of disclosure and transparency of delivery planning information and actions taken to date is still not consistent with that needed for full scrutiny or government accountability.

Government has a range of commitments for 2030 including the updated set of EA21 interim targets in the EIP25. However, the window of opportunity to meet the many commitments for 2030 is closing fast. Given the time lag between implementation and measurable ecological change, time is short for actions to substantively influence the prospects of meeting targets. However, government can still maximise the prospects of doing so by setting out sufficiently defined, ambitious plans and implementing them effectively.

Looking ahead, environmental and climate challenges are growing while the window of opportunity to address harms is narrowing and the effort and cost of doing so increasing. Environmental and climate challenges are interconnected and require policy responses that are comprehensive and integrated and can respond to emerging issues. In UK policy making and analysis, there is acknowledgment of the complexities, fragmented knowledge, divergent perspectives and evolving conditions within environmental domains.^{913,914}

Nature recovery is at serious risk. Only by restoring the natural environment will government secure the foundations that underpin quality of life and prosperity for current and future generations. However, the effectiveness of policy measures will be limited if they do not tackle the underlying causes of environmental degradation related to the societal systems that meet the needs for food, energy, mobility and the built environment; and improve policy coherence, harness synergies, and deal with trade-offs.

Government has a key role to play in initiating, guiding, coordinating and sustaining actions. It sets out the visions and pathways to provide a clear direction. It can set the direction for innovation through policy signals such as environmental regulations that drive efficiency improvements and stimulate innovation as well as phasing out technologies and practices that hamper progress. It can also manage the inevitable inequities and conflicts that can arise in transition processes and engage with the public to build support for change.

Working with the EIP25, government needs to provide that clear sense of direction, set out the intended outcomes, what policies and actions are meant to contribute and how they come together to do so. While the EIP25 can provide the strategic direction, delivery plans for targets and commitments enable government to be adaptive and respond to changing circumstances, emerging issues and insights from a monitoring, evaluation and learning framework.

This is a period of significant and ongoing legislative, policy and operational developments. Looking ahead to 2030, our message to government is consistent. Government needs to

speed up and scale up efforts and actions must be shown to stack up to make achieving targets and commitments a reality. Progress has been too slow so plans need to catch up and then keep up with the environmental challenges now faced.

The EIP25 must inspire action and drive change across government. In turn government must identify and trigger positive tipping points to catalyse action across society. It needs to provide the leadership and concerted effort required to achieve the significant environmental improvements that it is committed to and that are so urgently needed.

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Annex: Glossary of terms and acronyms

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Term	Description
25YEP	The 25 Year Environment Plan is a prominent government plan to protect, restore and enhance the environment. It was designated as the first statutory Environmental Improvement Plan.
The Act	The Environment Act 2021 – provided a new governance framework for the environment, with four key provisions: a new oversight body; long-term Environmental Improvement Plans (EIPs) to be reviewed and refreshed by government every five years; statutory targets; and an Environmental Principles Policy Statement applicable across government.
AES	Agri-environment schemes
APR	The Annual Progress Report (APR) is a statutory government report that assesses progress made in implementing the current Environmental Improvement Plan.
Assessment	The process of considering all the information about a situation and making a judgement. Assessment is used in its broadest definition here, encompassing evaluation, appraisal, monitoring and analysis.
Barrier	An element of government activity that inhibits delivery, in this context, of EIP goals and outcomes.
Baseline data	A set of information representing the baseline position and used to compare data acquired afterwards to determine changes. In an environmental context, the baseline determines the condition or health of the environment prior to an intervention.
BNG	Biodiversity Net Gain is an approach to development and land management that aims to leave the natural environment in a measurably better state than it was beforehand.
Climate adaptation	The process of adjustment to actual or expected climate change and its effects, in order to moderate harm or exploit beneficial opportunities. ⁹¹⁵
Climate mitigation	Interventions to reduce emissions or enhance the sinks of greenhouse gases. ⁹¹⁵
Coherence	The situation in which the parts of something fit together in a natural or reasonable way. In the policy context, this means multiple areas or activities aligning towards the achievement of government's goals.
Commitments	Statements that commit to do something but do not define a desired level of performance or include a measurable indicator.
Consultation	An act of external organisations exchanging information/opinions to increase understanding or give advice to government.
DAERA	Department of Agriculture, Environment and Rural Affairs
Defra	Department for Environment, Food and Rural Affairs
Delivery (plan)	Details of how goals, targets and/or policies are implemented, including the changes that are expected within sectors, who is involved and in what role, and the processes that shape decision-making.

Term	Description
Delivery authorities	Authorities who have assigned responsibilities for implementing delivery plans.
Drivers	The social and economic factors that indirectly bring about environmental change. These can be negative or positive. Examples of drivers include demographic change, economic growth and technological developments.
EA21 interim targets	The interim targets, set out in EIP23 as required by section 11(1) of the Environment Act 2021, in respect of any matter in respect of which there is an EA21 target.
EA21 targets	The legally binding targets set in regulations made under sections 1 to 3 of the Environment Act 2021.
Ecosystem services	The benefits people obtain from ecosystems. Ecosystem services can be divided into supporting, regulating, provisioning and cultural, although many services can sit under more than one category.
ELM	Environmental land management
Enabler	An element of government activity that helps to improve delivery of EIP goals and outcomes.
Environment Act 2021 (EA21 or the Act)	See The Act.
Environmental monitoring	Environmental monitoring is the process of detecting, observing and measuring environmental conditions and trends. Consistent observations over time help to ensure accurate determination of environmental change. This provides information to support policy development and its implementation and make assessments of progress.
Environmental Improvement Plan (EIP)	A statutory plan for significantly improving the natural environment in the period to which the plan relates, which is required to be prepared under the Environment Act 2021. The Environment Act 2021 included provisions to treat the 25 Year Environment Plan as the first Environmental Improvement Plan.
Environmental stewardship	The policy process for protecting, restoring and improving the environment, from defining desired outcomes to developing the means to deliver them. This is the responsibility of government, led by Defra.
ERCs	The UK's national emission reduction commitments from 2020, set out in the National Emissions Ceilings Regulations 2018.
Evaluation	A systematic assessment of the design, implementation and outcomes of an intervention. It involves understanding how an intervention is being, or has been, implemented and what effects it has, for whom and why. It identifies what can be improved and estimates its overall impacts and cost-effectiveness.
GBF	Kunming-Montreal Global Biodiversity Framework

Term	Description
Goal (apex goal)	Within the EIP23, Thriving plants and wildlife (goal 1) is highlighted as the goal of the plan. All other environmental goals are shown to contribute towards achieving this apex goal.
Goals	Statements that describe fundamental, broad aspirations that an organisation is aiming to achieve through its activities. They describe components of a vision and can be grouped into distinct areas. The 25YEP has 10 goal areas; and each area may have a set of associated goals, targets and commitments.
Governance	The system by which entities are directed and controlled. It is concerned with structure and processes for decision-making, accountability, control and behaviour, and with influencing how an organisation's objectives are set and achieved, how risk is monitored and addressed, and how performance is optimised.
Indicators	Statistics used to measure current conditions or trends over time. The 25YEP Outcome Indicator Framework includes a set of 66 indicators; these measure environmental changes that relate to the 10 goal areas within the 25 Year Environment Plan.
INNS	Invasive non-native species are species that are introduced, intentionally or unintentionally, outside of their natural geographic range, causing environmental, social and/or economic impacts.
Lag time	The time it takes between an event and an attributable environmental change – for example, the time it takes for species to respond to conservation measures or environmental pressures.
Major projects	Projects/programmes with whole-life costs over £100 million or that are novel or contentious.
Metrics	A set of numbers that gives information about a particular process or activity. Metrics underpin the indicators found in the Outcome Indicator Framework.
MPAs	Marine Protected Areas are defined geographical areas of the marine environment established and managed to achieve long-term nature conservation and sustainable use. The UK has many different types of protected area; some are established solely for nature conservation, while others serve a range of purposes, including nature, landscape and amenity values.
Natural capital	The parts of nature which directly or indirectly underpin value to people, including ecosystems, species, freshwater, soils, minerals, the air and oceans, as well as natural processes and functions. Natural capital forms part of our wealth, that is, our ability to produce actual or potential goods and services into the future to support our wellbeing.
Nature-based solutions	Referring to the sustainable management and use of natural features and processes to tackle socio-environmental issues.
Nature-friendly farming	An umbrella term used to describe farming systems and practices that enhance and protect biodiversity and contribute to tackling climate change alongside food production.

Term	Description
Nature-friendly habitat	<p>A term is used in the report when assessing land cover that is more likely to support large-scale nature-friendly habitats. These are land covers that are typically less intensive in use, such as semi-natural grasslands and broadleaved woodlands.</p> <p>This does not equate to wildlife-rich habitats as defined in the Environmental Targets (Biodiversity) (England) Regulations 2023⁹¹⁶ and therefore would not contribute to achieving the long-term wildlife-rich habitat restoration or creation target (an EA21 Target).</p>
Nature markets	<p>A mechanism for private investment in nature through the sale of units of ecosystem services, which are delivered by nature restoration projects or improvements to land or coastal management.</p>
Objectives	<p>Statements of specific, tangible outcomes that an organisation is aiming to achieve within one of the goal areas. For example, in the Clean Air goal area, an objective is to cut public exposure to particulate matter pollution.</p>
ODP	<p>Outcome Delivery Plans set out each government department's priority outcomes and its plan for achieving them.</p>
OECMs	<p>Other Effective Area-Based Conservation Measures are a geographically defined area other than a Protected Area, which is governed and managed in ways that achieve positive and sustained long-term outcomes for the in situ conservation of biodiversity, with associated ecosystem functions and services and where applicable, cultural, spiritual, socio-economic, and other locally relevant values.</p>
OEP	<p>The Office for Environmental Protection – a statutory body established by Parliament under the Environment Act 2021. Our mission is to protect and improve the environment by holding government and other public authorities to account.</p>
OIF	<p>The Outcome Indicator Framework (OIF) includes a set of 66 indicators; these measure environmental changes that relate to the 10 goal areas within the 25 Year Environment Plan.</p>
One out all out	<p>An expression commonly used (though not contained in the WFD Regulations) to describe the principle in the WFD Regulations' classification system whereby the overall ecological status of a surface water body is dictated by the lowest status of its various constituent elements. Similarly, the principle provides that for the overall status of any water body to be 'good', both its chemical and its ecological (for surface water) or quantitative (for groundwater) statuses must be at least 'good'.</p>

Term	Description
OSPAR	The mechanism by which 15 governments and the EU cooperate to protect the marine environment of the North-East Atlantic. OSPAR started in 1972 with the Oslo Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft and was broadened by the Paris Convention for the Prevention of Marine Pollution from Land-based Sources of 1974. In 1992 these two conventions were unified, updated and extended by the OSPAR Convention for the Protection of the Marine Environment of the North-East Atlantic. OSPAR is so named because of the original Oslo ('OS') and Paris ('PAR') Conventions.
Pathway	A planned route to achieving a specified outcome, such as an environmental goal or target, which takes account of the direct and indirect influence of government policies and external drivers of change.
PM_{2.5}	Particulate matter (in this context with a size of less than or equal to 2.5 µm).
Policies	The core measures that a government takes that affect environmental change, either directly or through influencing the actions of the public and private sector. These vary in scale and type (for example, regulation, standards, information campaigns, grants/subsidies).
Pressures	Pressures directly cause environmental change and are the consequences of socio-economic drivers. Examples of pressures include land-use change and pollution.
Priority outcome	The most important outcomes as defined in each Outcome Delivery Plan. Similar to goals, they define government's aspirations and help to organise activities that are crucial to the successful delivery of outcomes.
Prospects	The possibility or likelihood of achieving environmental goals and targets.
Proxy indicator(s)	An indirect measure that can approximate or can be representative of a phenomenon without the presence of a direct measure.
RBMPs	River Basin Management Plans set the legally binding, locally specific environmental objectives that underpin water regulation (such as permitting) and planning activities.
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
Regulation	A rule made and maintained by a relevant authority and often having the force of law.
SFI	Sustainable Farming Incentive
SMART	Targets that are specific, measurable, attainable, relevant, time-bound.

Term	Description
Species abundance	<p>The sum total of individuals from a given set of species within a given area.</p> <p>Government has set two apex targets for species abundance in England:</p> <p>On 31 December 2030, the overall relative species abundance index indicates that the decline in the abundance of species has been halted.</p> <p>Reverse the decline of species abundance, so that the overall relative species abundance index by 31 December 2042 is: (i) higher than the overall relative species abundance index for 31 December 2022; and (ii) at least 10% higher than the overall relative species abundance index for 31 December 2030 (the specified date for the 2030 species abundance target).</p>
SSSI	<p>A Site of Special Scientific Interest is a protected area of land that is of special interest by reason of any of its flora, fauna, geological, geomorphological or physiographical features.</p>
State	<p>A measure of the condition or health of the environment. This may include the abiotic condition of soil, air and water, or the biotic condition of ecosystems, habitats and species.</p>
Strategies	<p>Provide an overall rationale and approach to reaching specific targets. Typically, they define the problems and solutions, using principles and/or a vision of the future to propose a set of actions. They should consider, and ideally incorporate, multiple priorities within and across government departments.</p>
Targets	<p>Statements that generally quantify the desired level of performance expected, based on measurable indicators, by a specified time and against a specified baseline. Targets are best if they are SMART.</p>
Targets (apex targets)	<p>Targets that address the environmental outcomes that matter most, rather than areas that are easy to measure and improve. For example, parts of the environment experiencing states of severe deterioration, or facing major or emerging pressures.</p>
Vision	<p>A short statement that embodies the future that government aspires to achieve.</p>
Wildlife-rich habitat	<p>As defined for the purpose of the wildlife-rich habitat restoration or creation target (an EA21 Target) as a habitat of principal importance for the conservation of biodiversity, listed by the Secretary of State under section 41 of the Natural Environment and Rural Communities Act 2006 or another habitat type listed in Schedule 1 of the Environmental Targets (Biodiversity) (England) Regulations 2023,⁹¹⁶ and which is of sufficient quality that it is, or will be capable of, supporting flora and fauna which are typically found in the habitat in question.</p>



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