Office for Environmental Protection

Progress in improving the natural environment in Northern Ireland 2024/2025

June 2026

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Presented to the Northern Ireland Assembly pursuant to paragraph 1(7)a of Schedule 3 to the Environment Act 2021

24 June 2026

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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Contents

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

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This first statutory report on progress under the Executive's Environmental Improvement Plan (EIP) comes at an important moment. It provides an opportunity to take stock of the condition of the environment, to ask whether commitments are being turned into action, and to consider what the future holds and what must happen next. The message of our report is clear. The scale of the environmental challenge is very significant. The Executive has recognised this but progress to date is not yet at the pace or scale required. Urgent and sustained action is now much needed.

The Executive's EIP is an ambitious and vital framework for achieving a healthier natural environment. But it is more than that. It is also a plan for the health, wellbeing and prosperity of people and, critically, for future generations. That is why monitoring and reporting on progress towards that plan is such an important part of the OEP's role. Our task is to gather and analyse the evidence independently, to report transparently on what it shows and, by doing so, to support accountability, and help ensure that the interests of future generations are properly safeguarded.

In recent years, the highly visible deterioration of Lough Neagh has brought renewed public attention to the condition of the natural environment. It has highlighted in stark terms the consequences of long-standing decline in environmental quality and the real impacts this can have on people and communities. As commercial enterprises fail, as recreation is disrupted and as drinking water is tainted, the human cost of environmental deterioration becomes impossible to ignore. While Lough Neagh is unique in its scale and its ecological, economic and cultural significance, the challenges it faces are not. Lough Melvin and Lough Erne are already experiencing similar, ill effects of nutrient pollution. Indeed, many, if not all, of Northern Ireland's much cherished loughs, rivers, mountains and coastlines are under unsustainable pressure, primarily from pollution and land use change. Climate change, happening now, makes these problems worse. Lough Neagh has therefore become a beacon for the urgency of environmental recovery and the need for coordinated, sustained action.

The Executive's commitment in the EIP and the Programme for Government provide an important and unifying foundation for the work ahead. They show that the scale of the challenge is recognised and that environmental improvement is intended to be a shared priority across government. But the central test is delivery. Ambition, planning and commitment matter, but they must be matched by implementation, prioritisation and sustained resourcing if outcomes are to improve.

Our assessment finds that many of the ambitions set out in the EIP will require a significant acceleration in delivery. In some areas, greater clarity is needed on priorities and on how action will be taken forward. Even then, some very significant challenges are conspicuous by their absence. Most notably, the need to upgrade the failing wastewater system stands out as a critical need. Without progress in this area, it will be difficult to reduce pressures from pollution or to enable sustainable development, including the delivery of much-needed housing. This is a clear example of the wider public policy problems that arise when environmental pressures are left unaddressed at source.

Timing also matters. As key deadlines approach, including Global Biodiversity Framework targets for 2030, the window for effective action narrows. Nevertheless, while the scale of the challenge and the immediacy of the timeframe are imposing, there are ample

opportunities to take positive decisions, to take positive steps and to start the work. We have seen that with drive from the Minister, the Department, the Executive and from stakeholders, important plans can be agreed and commitments can be made. In this first year, we have seen positive steps but formulating and agreeing plans and strategies is only the start. Translating these plans into actions is the key challenge, so that past gaps in implementation and between promises and outcomes are now bridged.

On some fronts, progress is already being made. Trends in air quality have been generally positive, reflecting deliberate actions and plans to address legal obligations. Similarly, greenhouse gas emissions have fallen markedly. Such achievements should not be understated. They are the result of determination and a willingness to make the right, albeit difficult, choices. That same resolve will now be needed in other areas, including tackling nutrient pollution, which remains a priority.

Our overall message is therefore one of both urgency but also of opportunity. The natural environment is under considerable strain but it remains rich, distinctive and deeply valued. The natural heritage and prosperity, health and wellbeing of future generations is at risk and so safeguarding this should be a unifying purpose. With sustained commitment, clear leadership from the Executive as a whole, and a shared sense of duty to the next generation, there remains some time to secure the recovery that is so urgently needed. This first progress report is intended to support that effort. The OEP will continue to scrutinise progress independently in the years ahead and to encourage the action needed to secure lasting environmental improvement.

We are grateful to DAERA and NIEA, and to colleagues across NI Executive departments, and in environmental organisations who have contributed to this work and supported our analysis.

Julie Hill MBE
Interim Chair, Office for Environmental Protection

Executive summary and recommendations

Executive summary and recommendations

The Environment Act 2021 (EA21) established a governance framework for the environment. Provisions include a long term Environmental Improvement Plan (EIP) which is a plan for significantly improving the natural environment and which must set out the steps the Department for Agriculture, Environment and Rural Affairs (DAERA), and any other Northern Ireland department, intends to take to do so; an Environmental Principles Policy Statement that is applicable across Northern Ireland departments; 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 progress in the annual reporting period from September 2024 to September 2025 in response to DAERA's own Annual Progress Report, which was published on 26 January 2026.

The environment matters

As the EIP states, the natural environment is humanity's life support system and greatest asset. It provides essential services such as clean air, food, water and resources for building infrastructure.

Natural capital provides a way of understanding, measuring and valuing nature's contribution to people through the benefits it provides. The latest natural capital accounts show that in 2023 the total annual value of ecosystem services was £585 million (2024 prices).[1]

Nature is fundamental to ensuring environmental, social and economic resilience. However, the values and benefits it provides are at risk from its continued degradation. The deterioration of Lough Neagh demonstrates what happens when resilience decreases with environmental, social and economic consequences. Action on the environment can restore and increase local societal and economic resilience. Doing so is all the more important in the face of global developments. For instance, the anxiety over rising costs of home heating oil demonstrates the benefits of reducing reliance on fossil fuels.

The United Nations Environment Programme has continued to warn of the triple planetary crises of climate change, nature and biodiversity loss and pollution. The EIP aims to provide a framework to address these interlinked crises. Our report addresses these challenges and identifies actions that are needed to improve the natural environment.

Is Northern Ireland's natural environment improving?

The EIP aims to deliver real improvements in the quality of the environment, people's health and wellbeing and to create opportunities to develop the economy.

Viewed against the overall aim of significantly improving the natural environment, our summary assessment is that while some progress has been made, substantial challenges remain and the prospects of achieving EIP ambitions, targets and outcomes are largely off track (Figure 1). However, prospects are not fixed and there are clear opportunites to deliver improvements.

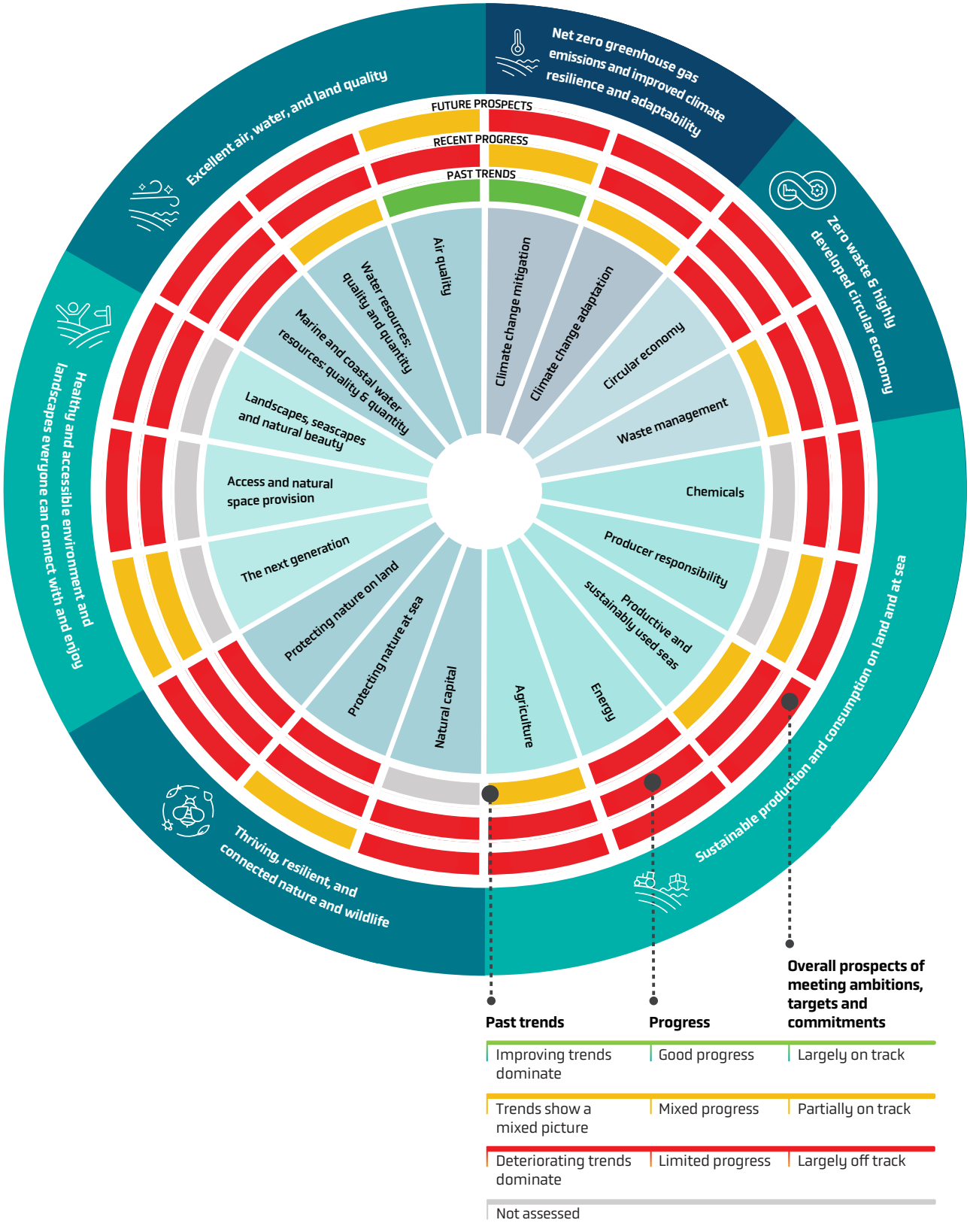


Figure 1. The Office for Environmental Protection summary assessment of past trends, progress for the year 2024/2025 and overall prospects of meeting ambitions, targets and outcomes across six strategic environmental outcomes and 18 themes of the Environmental Improvement Plan

How have we made our assessment?

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.

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 outcomes. 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.

Past trends

Our assessment of 48 trends shows that 12 are improving, 12 are static, 7 are deteriorating and 17 were not assessed due to data availability (Figure 8.2).

In relation to the natural environment, one in 12 species are at risk of extinction while other species and habitats are in decline. The overall state of the water environment remains concerning. Nutrient inputs remain at levels that pose a risk in freshwater, transitional and coastal waters. Regarding human health and wellbeing, ambient air quality has improved and air quality standards and targets are being achieved. In relation to a circular and low carbon economy, in the short term, the material footprint has increased and there has been little change in the carbon footprint. Household waste generation has remained stable and household recycling rates have stagnated.

In summarising trends at the level of EIP themes, we conclude that improving trends dominate in two (air quality and climate change mitigation). Deteriorating trends dominate in five (marine and coastal resources: quality and quantity, protecting nature on land, protecting nature at sea, energy, and circular economy) and trends are mixed in five (water resources: quality and quantity, future agricultural policy, productive and sustainably used seas, waste management and climate change adaptation). For six themes, trends could not be assessed due to data availability (landscapes, seascapes and natural beauty, access and natural space provision, the next generation, natural capital, producer responsibility and chemicals).

Progress in the reporting period

Our assessment of progress during the annual reporting period towards meeting 38 individual targets and outcomes is that good progress has been made towards two, mixed progress towards six, limited progress towards 27 and three could not be assessed (Figure 8.3).

In relation to the natural environment, overall progress towards achieving thriving, resilient and connected nature and wildlife was limited. Regarding human health and wellbeing, there was mixed progress on air pollutants. Good progress was made on bathing water status, however, there was limited progress in protecting bathing waters from storm sewage discharges and the impact of agriculture. In relation to a circular and low carbon economy, good progress was made towards recovering costs from producers for managing packaging waste with mixed progress on other producer responsibility targets.

In summarising progress at the level of EIP themes, we conclude that progress was mixed in three themes (the next generation, producer responsibility and climate change mitigation) and limited in 15 themes.

Overall prospects

Informed by our assessment of past trends and recent progress, our assessment of the prospects of meeting 38 individual targets and outcomes is that prospects are largely on track towards meeting three, partially on track towards meeting six and largely off track towards meeting 26, while the prospects of meeting three could not be assessed due to a lack of sufficient evidence (Figure 8.4).

Areas where prospects are largely on track relate to emissions of specific air pollutants such as fine particulate matter, sulphur dioxide and oxides of nitrogen (but not ammonia), the condition of bathing waters and recovering costs from producers for managing packaging waste.

In summarising prospects at the level of EIP themes, we conclude that overall prospects are partially on track for three themes (air quality, the next generation and protecting nature at sea) and largely off track for 15 themes.

In addition, the lack of progress regarding climate adaptation means action is not keeping pace with increasing risk levels hindering the prospects of meeting targets and outcomes across many other areas.

What is holding back progress?

Northern Ireland faces persistent environmental problems, the origins of which extend back over decades. Looking across trends, progress and prospects, few measurable improvements can be observed and there is a lack of urgency with which positive actions are being implemented. Progress and prospects are impeded by a range of factors including:

Key policies and strategies are delayed. For example, the Ammonia Strategy, the Nutrients Action Programme, the Marine Plan for Northern Ireland, the Circular Economy Strategy and the Green Growth Strategy. This creates uncertainty and results in missed opportunities. It also means that plans do not keep pace with the increasing scale of challenges and the time available to achieve targets and outcomes reduces.

Actions in the EIP are not addressing all major pressures. For example, improving the water environment requires investment in wastewater infrastructure and reducing agricultural pollution to reduce excess nutrients, as well as addressing other pressures such as hydromorphological alterations and chemical pollutants.

Resources are not given as needed, even when the actions required to achieve EIP targets and outcomes are well understood. Resource constraints were the most common reason given for challenges and delays in DAERA's Annual Progress Report 2026. This affects policy development, for example, the Clean Air Strategy and Landscape Strategy. It prevents the implementation of actions at the scale and pace that is needed, for example, to restore peatlands, improve the condition of protected sites and roll out the Farming with Nature package.

There is an absence of credible action or delivery plans. For example, action plans to reduce pressures impacting nature, such as invasive species, and plans for delivering the renewable energy target.

How can progress be improved?

Across our report we identify opportunities for improvement. In many cases, effective responses exist and their implementation is feasible if supported sufficiently. However, the current scale and pace of action is falling short of what is needed to achieve EIP targets and outcomes.

The EIP states that it will form the basis for a coherent and effective set of interventions that can deliver real improvements in the quality of the environment, people's health and wellbeing and create opportunities to develop the economy.

In our view, this EIP does not yet set out a coherent and effective set of interventions and its implementation is not yet achieving the real improvements that are needed. However, current actions are putting in place the necessary foundations for making further progress.

There are critical interdependencies with other strategies and policies which are delayed. All are needed sooner rather than later. However, this does mean there is a real opportunity to take a more integrated approach and ensure that these complement the EIP to provide coherence from the strategic policy level through to local decision making.

Environmental outcomes are determined by a wide range of factors. Most environmental pressures are linked to the systems that meet society's needs for food, energy, mobility and the built environment. Across the EIP, the food system is particularly important. It is central to realising environmental outcomes, ensuring food and nutrition security, and supporting economic development and rural communities. Ensuring policies are aligned to move the food system in the right direction is one of the biggest opportunities DAERA currently has to strengthen cross-government working, to deliver on environmental targets and outcomes, while realising social and economic benefits.

Strengthening the coherence and interlinkages between the EIP, Food Strategy Action Plan, draft Circular Economy Strategy and the draft Green Growth Strategy would deliver a coherent and effective set of interventions that address the whole food system and the range of actors that operate within it. DAERA's role in leading on key developments and the cross-departmental Food Programme Board provides it with a real opportunity to deliver better outcomes. The 2021 Dasgupta Review on the Economics of Biodiversity was clear – a failure to integrate food and biodiversity policy risks locking in ecological decline and economic vulnerability.[2]

Looking ahead, while the overall picture of the past is not encouraging, it is important not to let this weaken the evident resolve to address the future. While the implementation of many actions in the EIP are not yet progressing as desired, the clear efforts made in recent years to address the lack of earlier progress are now putting in place essential foundations on which to build. However, important targets such as 30 by 30 are only four years away. The window of opportunity is closing, and as interventions take time to have an impact, there is a need to act quickly to make up lost ground.

The current pace and scale of action will not deliver the progress that is needed for the EIP to be effective, but delivering all that is planned would substantially improve the prospects

of achieving ambitions. As highlighted in DAERA's APR 2026 conclusion, the focus must now be on delivery and turning strategies into measurable improvements. While the challenge is significant, the direction is clear and a concerted effort is required to achieve the significant environmental improvements that are so urgently needed.

Key recommendations

Our key recommendations address priority areas for action and the main barriers and opportunities. They aim to ensure successful delivery of the EIP and significant improvement of the natural environment. These are not actions that could be completed in one year but will require concerted and ongoing efforts. Therefore, we will monitor progress with these recommendations over the timeframe of the EIP. We also make a series of more specific recommendations to drive improvements in each EIP theme.

There are three priority areas for action that can contribute to improving outcomes across SEOs. Greater scale and pace of action is needed in each to secure significant environmental improvement.

Key recommendation 1: Effectively address nutrient pollution. Pollution by nutrients from agriculture and wastewater is a longstanding, severe and chronic problem that affects the economy, society and environment. It will not be possible to achieve EIP targets and outcomes for air, water and land quality or for nature's recovery and climate change without effectively addressing nutrient pollution.

A range of measures to do so are in place with others imminent. However, an assessment of how these are intended to come together to deliver overall objectives for nutrient pollution is still lacking. This is essential to understand how far current measures will go to achieving outcomes, where additional reductions will be required in the future and what those responsible for contributing to the problem and the solution will need to do.

Key recommendation 2: Speed up action on the circular economy. This is essential to address the underlying drivers of environmental degradation and nature loss. These are strongly linked to overall levels of resource use and how the economy and society uses materials and energy. The transition to a circular economy will also support the development of a more resilient and inclusive economy now and for future generations.

In developing a circular economy, actions should consider the Environmental Principles Policy Statement. Their systematic application can contribute to reducing environmental pressures from economic activities and embed safe and sustainable by design into chemical and product lifecycles. Application of the polluter pays principle can ensure that the cost of cleaning up pollution and waste is not borne by the public.

Key recommendation 3: Ensure nature's recovery. A focus on restoration and nature positive use of land and sea is essential for delivering EIP targets and outcomes. The draft Nature Recovery Strategy, Peatland Strategy, Farming with Nature scheme and prioritisation of nature-based solutions as required through the Climate Change Act (Northern Ireland) 2022 provide the basis for action.

Investing in nature's recovery is a strategic investment that will lead to long-term benefits for society and the economy. A recent estimate of the cost of restoring degraded ecosystems in Europe also found that the benefits of restoring these ecosystems were ten times greater than the costs. The benefits arose from avoided disaster losses, improved public health,

greater climate resilience and strengthened food and water security.[3,4] Nature's restoration will also depend on enabling and supporting those who work with nature, such as farmers, fishers and foresters, to effectively contribute.

There are then five cross-cutting areas where steps can be taken to address the main reasons we identify why progress is limited and prospects are largely off track.

Key recommendation 4: Implement the EIP effectively. As a high-level plan the EIP does not provide detail on how actions will be delivered. Therefore, it needs to be supported by the development and implementation of delivery plans. These plans must show how actions will stack up to achieve the EIP targets and outcomes. DAERA and responsible NI Executive Departments need to drive action where it is needed most and ensure rapid and effective implementation of major initiatives where late or slow delivery will lead to overall failure.

Key recommendation 5: Address delays. The EIP needs to work alongside a range of strategies and plans. In particular, the draft Ammonia Strategy, the draft Nutrients Action Programme, draft Nature Recovery Strategy, draft Marine Plan for Northern Ireland, draft Circular Economy Strategy and draft Green Growth Strategy. It is essential that these are finalised, published and implemented if EIP targets and outcomes are to be achieved.

Key recommendation 6: Develop and implement effective governance by the Executive and its departments, and effective partnership working. A key barrier to progress is effective Executive and cross-departmental working. Dependencies on other policy areas and programmes and coordination challenges were amongst the most common reasons given for challenges and delays in the APR 2026. It is critical that greater leadership is provided by the Executive to catalyse action. It should be clear who is accountable, how decisions are made and how delivery of the EIP will be assured across NI Executive Departments and wider society. Where a partnership approach to delivery with stakeholders is taken this needs to be well supported.

Key recommendation 7: Improve resourcing. Ambitious plans can only be delivered if they are funded. The Executive faces significant funding pressures and resource constraints were the most common reason given for challenges and delays in the APR 2026. The Dasgupta Review and the now longstanding Stern Review on the economics of climate change both conclude that the benefits of strong and early action far outweigh the economic costs of not acting.[2,5] Current levels of funding are inadequate and there are improvements that can be made to current schemes that would make more effective use of available resources. Resources for public investment can also be generated through application of the EPPS polluter pays principle.

Key recommendation 8: Develop and implement an effective monitoring, evaluation and learning framework. DAERA's APR 2026 was a significant and welcome contribution and provides a basis for monitoring progress. APRs should improve over the timeframe of the EIP. The required increase in the pace and scale of implementation means it is more important than ever to understand what is working and when and how to adapt to ensure that outcomes are achieved. Lessons learned from monitoring and evaluation need to be reported transparently and inform adaptive management of delivery of the EIP. There are critical evidence gaps that need to be addressed to enable assessment of progress and the effects of interventions to ensure that limited resources are being used as effectively as possible.

I. Setting the scene

Chapter 1: Setting the scene

The Environment Act 2021 (EA21) established a governance framework for the environment. Provisions include a long-term Environmental Improvement Plan (EIP) that must set out the steps the Department for Agriculture, Environment and Rural Affairs (DAERA) and any other Northern Ireland department intends to take to significantly improve the natural environment; an Environmental Principles Policy Statement that is applicable across Northern Ireland departments; and an oversight body, the Office for Environmental Protection (OEP) that helps ensure this framework works as it should.

The EA21 introduced statutory reporting requirements. DAERA must prepare Annual Progress Reports (APRs) on the implementation of the EIP. These reports must consider improvement in the natural environment and be laid before the Northern Ireland Assembly.

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

Our report is laid before the Northern Ireland Assembly in response to DAERA's APR and within six months of the APR's publication. DAERA must then respond to our report and lay before the Northern Ireland Assembly that response no later than 12 months after our report is laid.

With this report, we provide our assessment of progress in the annual reporting period from September 2024 to September 2025 in response to DAERA's APR, which was published on 26 January 2026.

1.1 The context for achieving environmental goals

The environmental challenges Northern Ireland faces today are rooted in local and global developments going back over decades. In terms of 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 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.[6]

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.[7]

The environment matters when it comes to ensuring prosperity, health and wellbeing. The EIP states that the natural environment is humanities life support system and greatest asset. It provides essential services such as clean air, food, water and resources for building infrastructure.

Natural capital provides a way of understanding, measuring and valuing nature's contribution to people through the benefits it provides. The latest natural capital accounts show that in 2023 the total annual value of ecosystem services was £585 million (2024 prices).[1] This includes the provisioning of agricultural biomass, fish, timber and renewable

energy (£600 million) and health benefits from people visiting nature (£237 million). Regulation of air pollution, greenhouse gases (GHGs) and noise were valued at negative £597 million. This is because nature in Northern Ireland is a net GHG emitter due to peatland emissions and low levels of carbon sequestration by forestry.

The value and benefits nature provides are fundamental to ensuring environmental, social and economic resilience. These are at risk from its continued degradation. The deterioration of Lough Neagh is the result of a long-term decline in environmental quality and demonstrates what happens when resilience decreases due to multiple pressures and the environmental, social and economic consequences.

Action on the environment can also contribute to local societal and economic resilience in the face of global developments. Northern Ireland's heavy reliance on home heating oil is creating political and public anxiety over rising costs and demonstrates the benefits of decreasing reliance on fossil fuels. This also extends to economic concerns over the availability of fertilisers and increased transport costs and their impacts on an import-reliant and export-oriented agri-food sector.

The EIP acknowledges the scale of the challenge and that it will require planning, ambition and moving fast. Recent reports by the Northern Ireland Audit Office and the thinktank Pivotal of progress with relevant policy programmes identify common and consistent issues that resonate with our findings and recommendations in this report.[8–10]

First is the need for more urgent action because progress is not in line with ambition and there are few measurable improvements. Second is the absence of credible funded plans to achieve outcomes. Third is the need to improve performance reporting. Finally, that delivery now needs to be the overriding focus. These issues, consistently identified, also apply to achieving the EIP ambitions, targets and outcomes. Acting on them provides an opportunity to drive change and make progress.

1.2 The Environmental Improvement Plan

The EIP sets out a statutory framework to restore and sustain the natural environment for future generations.[11] It states that it will form the basis for a coherent and effective set of interventions that can deliver real improvements in the quality of the environment, people's health and wellbeing and create opportunities to develop the economy. It aims to elevate Northern Ireland to an environmental leader that plays its part in protecting the global environment for decades to come.

The EIP is structured around six strategic environmental outcomes (SEOs) and, within these, 22 themes (Figure 1.1). It is broad in scope, recognises the interconnected nature of actions and aims to provide a framework to address the interlinked crises of biodiversity loss, climate change and pollution. It aims to link actions and targets to the relevant United Nations Sustainable Development Goals and in so doing provide a coherent response to these global environmental challenges.

The EIP is intended to be a high-level, Executive endorsed plan that sits alongside new and existing strategies and forms part of the wider green growth agenda. The Programme for Government 2024-2027 contains a commitment to establish robust accountability mechanisms to allow monitoring and reporting of progress on the EIP.[12]

As a high-level plan, the EIP sets out the Executive's direction of travel on the environment. Greater detail on actions, targets and outcomes is provided during the development and implementation of associated strategies, action plans and programmes. It highlights the need for the EIP to work alongside the draft Green Growth Strategy, the draft Circular Economy Strategy, the future Agricultural Policy Framework, the draft Nature Recovery Strategy and the draft Climate Action Plan.

The EIP also acknowledges the need for cooperation on a North-South basis as a single biogeographic unit, as well as on an East-West basis with other UK administrations. Partnership working between NI Executive Departments, local councils, community and voluntary organisations, business and environmental Non-Governmental Organisations is seen as essential to the EIP's success.

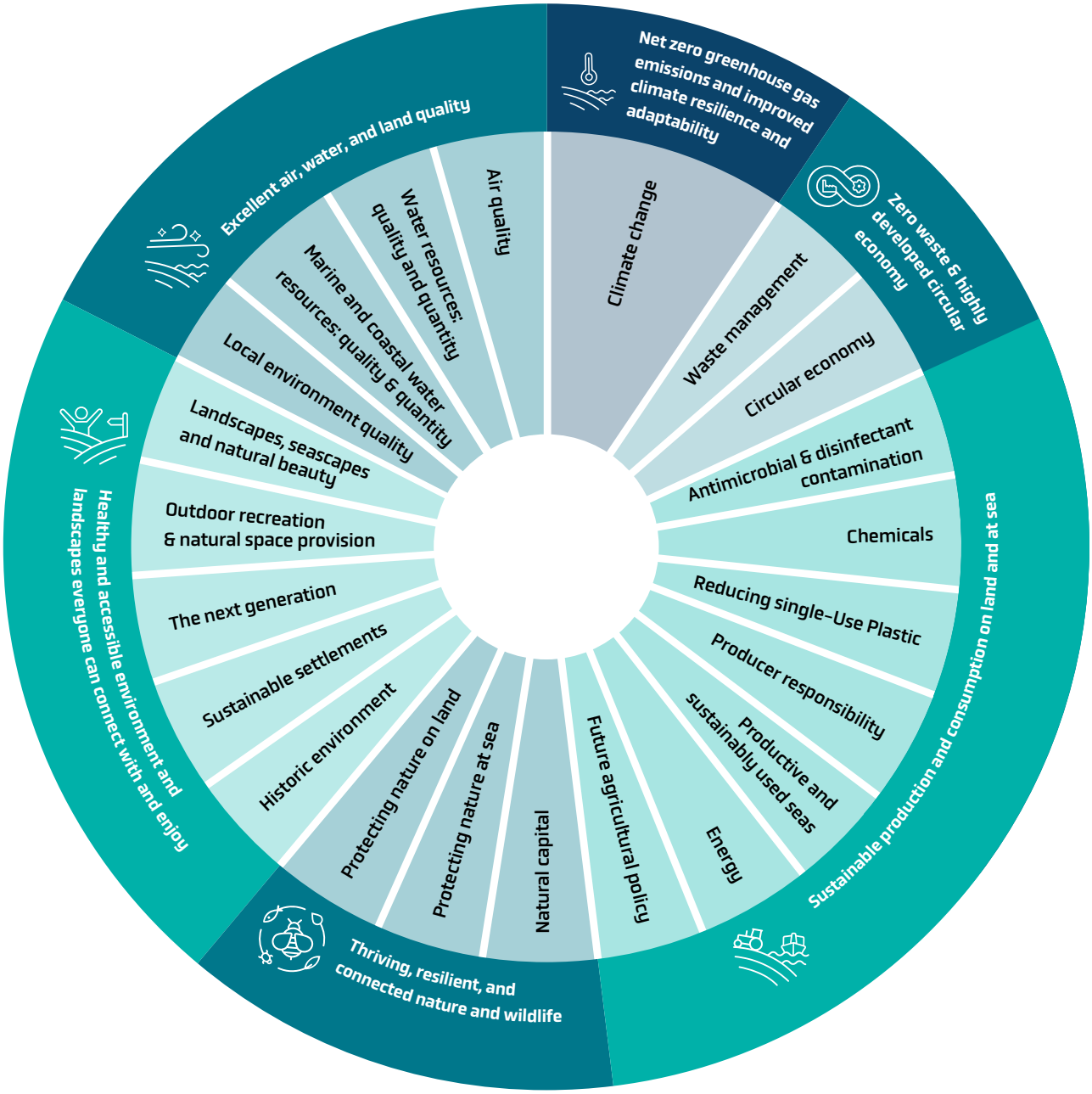


Figure 1.1 The Environmental Improvement Plan Strategic Environmental Outcomes and themes

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).

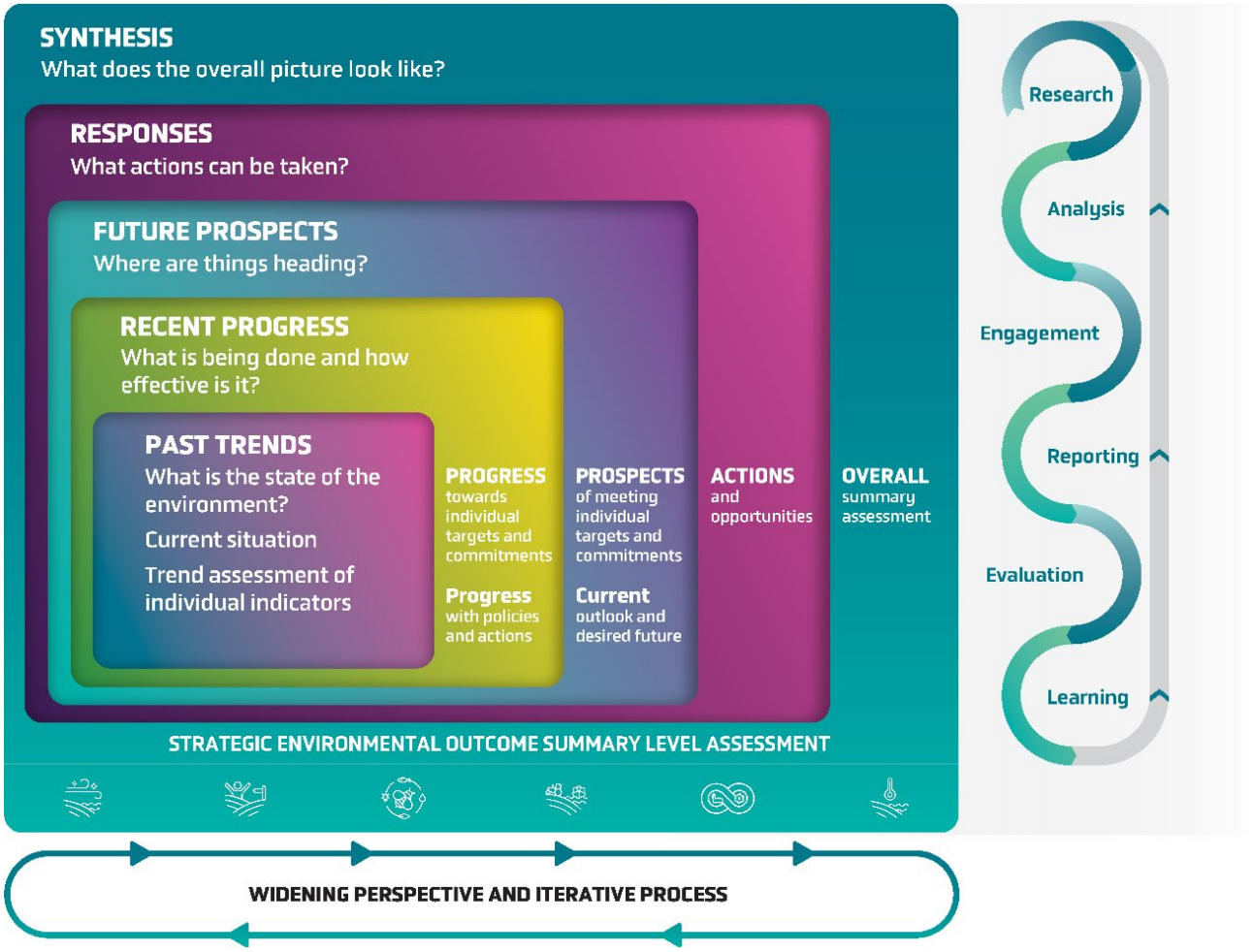


Figure 1.2 The Office for Environmental Protection's integrated assessment approach

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 Executive's ambitions, targets and outcomes.

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 outcomes. 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 improving the natural environment in accordance with the EIP. The report is structured in three parts, as outlined below.

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

In **Part II Progress and prospects**, we provide an integrated assessment of EIP themes. We assess environmental trends and respond to DAERA's APR 2026 by assessing progress during the annual reporting period towards individual targets and outcomes as well as the prospects of achieving them. For each theme, we then assess the overall progress and prospects, consider how progress could be improved and provide recommendations on how this could be achieved.

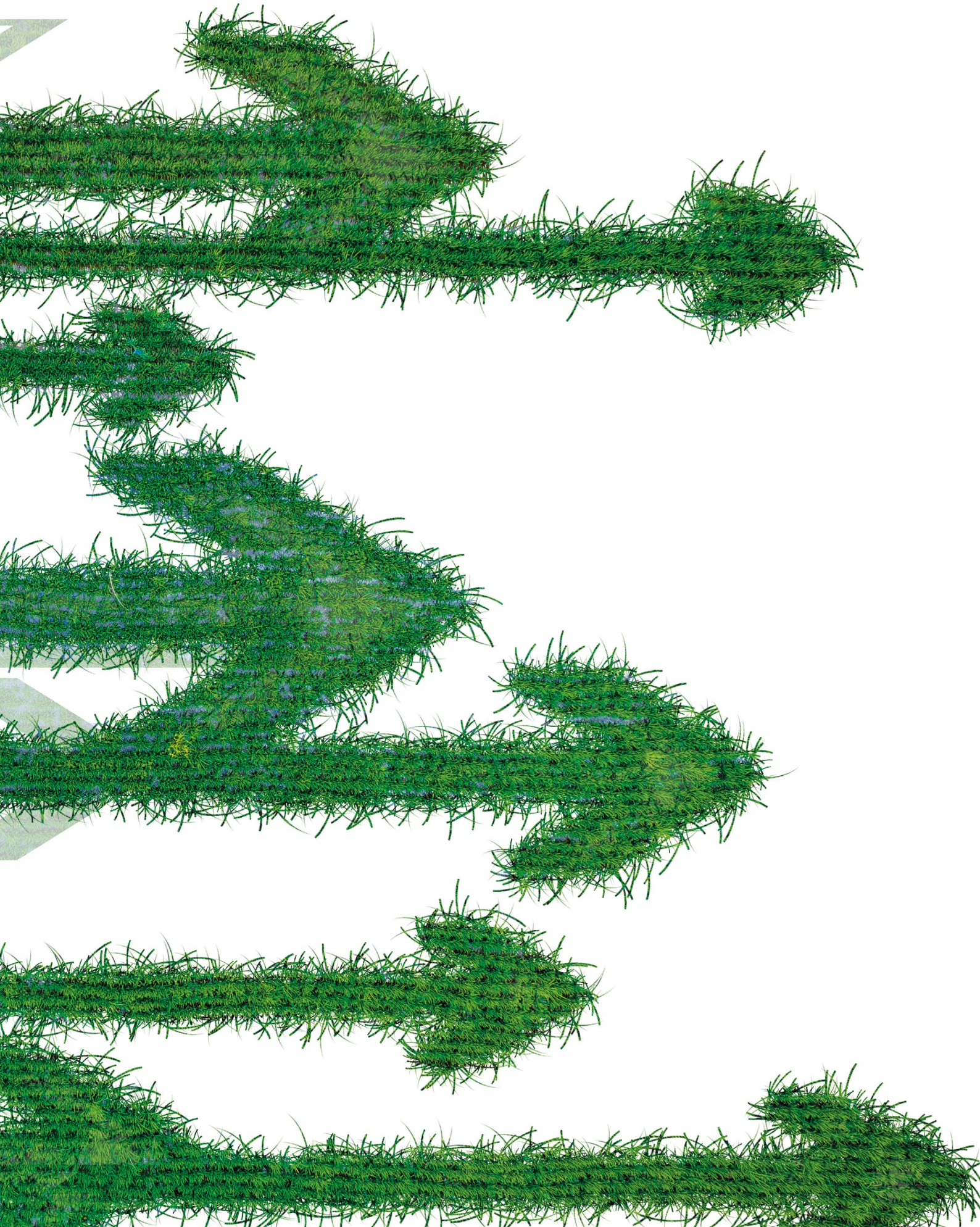
In **Part III Taking stock**, we bring together the theme level analysis and summary assessments to provide an overall picture of trends, progress and prospects and highlight cross-cutting issues.

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 Statistics[13] 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 DAERA's APR and data published that relate to the annual reporting period but we also look beyond this. 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 Northern Ireland.

II. Progress and prospects



Introduction

In this section, we present our assessment for each of the strategic environmental outcomes of the EIP. The data sources and methods we have used are set out in the Methodological Statement.

There are four elements to our summary assessments: trends, progress towards targets and outcomes within the annual reporting year, prospects of meeting targets and outcomes and an overall table.

To summarise environmental trends and whether change is for better or worse, we use icons that combine a red-amber-green (RAG) system and symbols (Table II.1). 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.

Our assessment of short-term trends is based on the five most recent years of data 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). We also calculate a measure of statistical significance. This determines whether the most recent year of data can be distinguished from the preceding five data points and be defined as a statistically significant change.

The combination of these approaches supports a more robust and transparent assessment. The percentage calculation reflects the magnitude of the change, while the statistical analysis looks at variation. As a result, a percentage change over a five year period could be high, but not statistically significant and vice versa. To ensure that trends are clearly communicated, the statistical analysis does not affect the ratings, but it can be considered alongside them to provide additional insights.

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 and outcomes and at theme level 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.

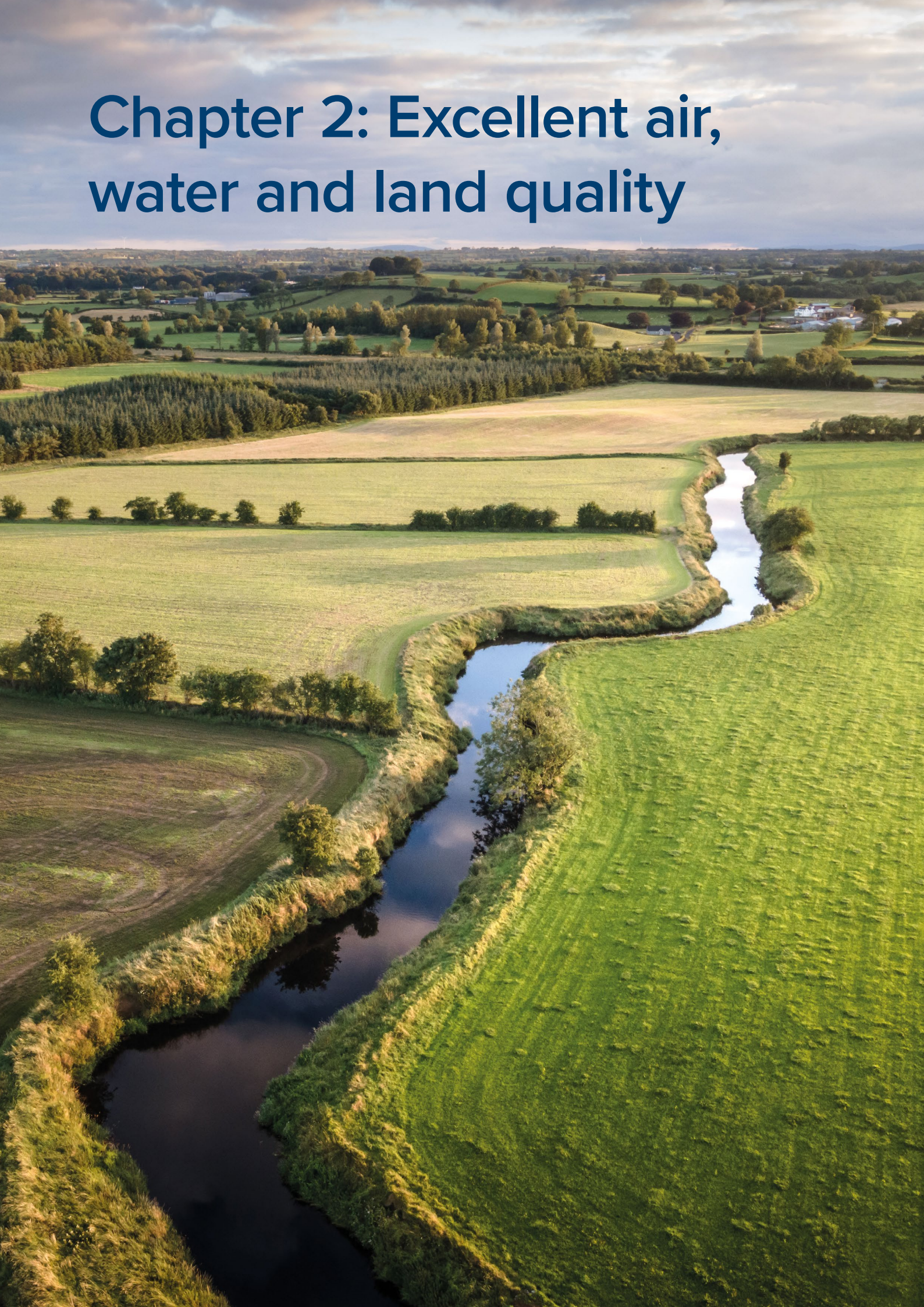
We use the same system to summarise prospects of reaching individual targets and outcomes and at theme level. Green indicates that prospects of meeting ambitions, targets and commitments are largely on track; amber means they are partially on track, and red largely off track. Again, if we have been unable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

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

Table II.2 SEO theme level summary assessment methodology (adapted from EEA[14])

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 the APR, official data 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), credible (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 and outcomes is based on the APR, official data that relate to the reporting period, distance to target assessments, 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 which identifies key gaps and uncertainties and indicates the degree of expert judgement used.		

Chapter 2: Excellent air, water and land quality



Chapter 2: Excellent air, water and land quality

2.1 Summary assessment

The condition of air, water and land directly impacts both ecosystems and human health. Protecting and enhancing environmental quality supports food production, healthcare and sustainable economic growth.

Trends are mixed. While some trends for air, drinking water and bathing water show improvement, most remain below desired levels or are deteriorating. Deterioration across air, water and marine environments is primarily driven by excess nutrients from agriculture and wastewater.

Progress in addressing environmental quality has been limited, with proposals and actions undermined by poor delivery and lack of policy coherence. Revision of the Nutrient Action Programme and publication of the Ammonia Strategy and the Marine Plan are still outstanding. These delays, in addition to the slow uptake of mitigation measures and lag times in ecosystem responses, further reduce the prospects of achieving EIP commitments.

While it recognises the importance of land quality, the EIP offers few actions to address it. Land quality covers soil health, local cleanliness, and contamination, but so far only agricultural soil health is addressed, through the Soil Nutrient Health scheme. Similarly, the approach to local environmental quality is narrow, focusing only on litter, despite the local significance of clean air, water, and bathing waters for many communities.

The commitment to adopt a source-to-sea approach is a positive development. Such integrated management approaches should be extended to include air, alongside freshwater, coastal and marine environments. This more comprehensive approach would be more effective in addressing the interconnected pressures on environmental quality, such as those posed by nutrients. This would also maximize the benefits of investments like the Soil Nutrient Health Scheme and Sustainable Utilisation of Livestock Slurry scheme. However, these investments must be accompanied by upgrades to the wastewater treatment system to achieve improved environmental quality.

Table 2.1 Excellent air, water and land quality – summary assessment

Theme	Past trends	Progress	Overall prospects
Air quality	**Improving trends dominate**	**Limited**	**Partially on track**
Water resources: quality and quantity	**Trends show a mixed picture**	**Limited**	**Largely off track**
Marine and coastal water resources: quality and quantity	**Deteriorating trends dominate**	**Limited**	**Largely off track**

2.2 Introduction

Clean air, water and land play a crucial role in sustaining both the natural world and human society. Environmental quality reflects the degree to which they are free from pollution and degradation. Maintaining high environmental quality ensures that nature can thrive, and is essential to human health and wellbeing, economic sustainability and climate resilience.

The state of the environment is shaped by complex interactions between the natural environment and human activities. Industries, agriculture and urban development often introduce contaminants and disturb natural cycles, leading to environmental deterioration over time. Such disruption can impact species, habitats and entire ecosystems, with consequences for society.

This strategic environmental outcome (SEO1) aims to significantly improve the quality of air, water and land by reducing pollution, restoring degraded environments, and embedding environmental protection into policy, planning and practice.[11] In doing so, it supports the achievement of all other SEOs. It comprises themes focused on air quality, and the quality and quantity of freshwater, marine and coastal water resources. In addition, it addresses local environmental quality with a focus on litter (see Chapter 6).

2.3 Air quality

2.3.1 Context and commitments

Air pollution places a significant burden on the environment, public health and economy, with pollutants such as ammonia (NH_3), fine particulate matter ($PM_{2.5}$), oxides of nitrogen (NO_x), sulphur dioxide (SO_2), and non-methane volatile organic compounds (NMVOCs), contributing to a range of harmful effects. These pollutants have both localised and long-range impacts, necessitating implementation of actions at multiple scales from the local to the transboundary.

The legislative framework for air quality is built on European Union (EU) derived legal targets which have been assimilated within domestic law and are supported by UK-level strategies. Northern Ireland, along with other devolved administrations, contributes to the UK's legally binding national emission reduction commitments (ERCs) under the National Emission Ceilings Regulations 2018 (NECR). These ERCs include maximum ceilings for NO_x, SO_2, NMVOCs, $PM_{2.5}$, and NH_3 emissions at a UK level.[15] Phase 1 ERCs cover the period 2020 to 2029 and are followed by more stringent Phase 2 ERCs from 2030 onwards, designed to halve the health impacts of air pollution compared with 2005.

Ambient air quality is regulated principally through the Air Quality Standards Regulations (Northern Ireland) 2010. These regulations set legal limit values and target values for key pollutants, including nitrogen dioxide (NO_2), SO_2, carbon monoxide (CO) and coarse and fine particulate matter (PM_{10} and $PM_{2.5}$). They place obligations on the Department of Agriculture, Environment and Rural Affairs (DAERA) to monitor air quality, provide public information, and prepare air quality plans where required.[16] Local councils have parallel statutory duties under the Environment (Northern Ireland) Order 2002 to review and assess air quality and, where objectives are not met, to declare Air Quality Management Areas and develop action plans.[17,18] The Air Quality Regulations (Northern Ireland) 2003 and the 2007 UK Air Quality Strategy set the air quality objectives for these local assessments. These include objectives for NO_2, SO_2, CO, PM_{10}, $PM_{2.5}$, Ozone (O_3), and Benzo[a]pyrene (B[a]P) that broadly reflect the

national legal limit values set under the Air Quality Standards Regulations (Northern Ireland) 2010, with DAERA providing financial support to local councils to support delivery.[19]

There has been improvement in many air quality parameters, but NH_3 remains a persistent problem. Agriculture accounts for approximately 97% of NH_3 emissions, and the region contributes around 12% of the UK total, despite having only 3% of the human population and 6% of the land area.[20] Ammonia pollution results in nitrogen deposition which contributes to acidification, eutrophication and biodiversity loss.[21] The EIP aims to reduce NH_3 emissions to a level where critical loads of nitrogen deposition and critical levels of NH_3 are not exceeded at any designated sites.

Emissions of NH_3 also result in secondary particulate formation, which can be a significant contributor to $PM_{2.5}$, one of the pollutants most harmful to human health in the UK, and which is considered to have no safe limit.[22] Linked to cardiovascular and respiratory disease, long-term exposure to $PM_{2.5}$ is estimated to contribute to over 900 premature deaths each year in Northern Ireland (including over 200 in Belfast alone).[23] Air pollution impacts are not uniform, disproportionately affecting the elderly, young and those from more deprived areas which tend to have higher concentrations of air pollution.[23–25]

The EIP outlines actions to develop strategic measures to address air pollution, particularly for NH_3. DAERA released a consultation on a draft Clean Air Strategy in November 2020, setting out proposed approaches to reducing air pollution across key sectors including transport, residential combustion, industry and agriculture. This was followed by the draft Ammonia Strategy in January 2023 to address agricultural emissions, and a draft Climate Action Plan in June 2025 to address decarbonisation, which also requires long-term environmental targets for air quality.[20,26–28] In line with commitments set out in the Programme for Government, these strategies collectively aim to improve environmental outcomes and public health through more coherent, cross-departmental action on air quality.[12]

Pending completion of the Clean Air Strategy, air quality objectives that inform local council action under the Environment (Northern Ireland) Order 2002 continue to be those set out in the 2007 Air Quality Strategy for the UK.[29] The EIP also contains actions to strengthen the evidence base through enhanced monitoring, modelling and analytical capacity, and to develop a revised Operational Protocol to provide evidence-based advice to local councils on the impacts of air pollution on the natural environment.[30] In addition, the EIP aims to increase public awareness of the health effects of poor air quality and the sources of pollution.

2.3.2 Key environmental trends

We have assessed trends in the emissions of air pollutants, concentrations in ambient air, and the impact on the natural environment. A summary assessment is provided in Table 2.3.1 with further detail below.

Emissions of air pollutants

In the short-term, between 2018 and 2023 there was a statistically significant decrease in emissions of NO_x, SO_2, NMVOCs, and $PM_{2.5}$. NH_3 emissions, by contrast, increased by 0.6%, although this was not statistically significant.[21] A similar pattern is seen over the longer term. Since 2005, emissions of these four pollutants have declined, whereas those of NH_3 have risen by 5.6% (Figure 2.3.1). This increase is largely driven by the agricultural sector.[20,21]

Exposure to NO_x can cause airway inflammation in humans and damage ecosystems through deposition in soil or water, creating nutrient imbalances. It can also react with other pollutants such as NMVOCs to form harmful ground-level O_3. In the short-term, emissions of NO_x between 2018 and 2023 decreased by 30.7% (Figure 2.3.1). Transport remains the largest source of NO_x emissions from fuel combustion, though emissions have decreased due to improvements in vehicle standards and increased uptake of electric vehicles. Emissions have also been reduced through abatement technologies across energy industries and through changes in power generation, including the 2023 closure of the Kilroot coal-fired power station.[21]

Direct exposure to SO_2 can irritate and constrict the airways. In the short-term, SO_2 emissions decreased by 52.4% between 2018 and 2023. Over the longer term, decreases have largely resulted from the phase-out of coal and oil-fired power stations and the expansion of natural gas infrastructure. Fuel combustion, primarily industrial and residential, now accounts for approximately three-quarters of SO_2 emissions. Residential emissions have decreased in recent years as the use of coal for heating has declined; however, they remain a key source, reflecting the continued prevalence of solid fuel use and popularity of wood-burning stoves.[21,31]

NMVOCs are a large group of organic compounds and precursors to harmful pollutants.[32] In the short-term, emissions decreased by 8.8% between 2018 and 2023, but there was a small increase between 2022 and 2023 (Figure 2.3.1). Agriculture is the predominant source, accounting for over half of emissions, with cattle manure management the largest contributor in 2023. Over the longer term, reductions have been linked to changes in the transport sector, including a higher proportion of diesel passenger vehicles (which emit fewer NMVOCs), improved fuel economy, and the introduction of petrol vapour recovery systems at filling stations.[21]

$PM_{2.5}$ comprises fine particles associated with serious human health impacts, including cardiovascular disease, dementia, stroke, and diabetes.[22,33] It is emitted directly and formed secondarily from precursors such as NH_3, NO_x, SO_2, and NMVOCs.[34] Between 2018 and 2023, emissions decreased by 34.1% (Figure 2.3.1). Residential combustion is the main source, with reductions driven primarily by declining coal and solid fuel use since 2005.[21] Continued improvements in vehicle standards and increased uptake of electric vehicles have also contributed.

There were 254 kt of NH_3 emitted in the UK in 2024, of which 89% arose from agriculture. The NECR sets a national commitment for the UK to reduce NH_3 emissions by 16% by 2030 compared to the 2005 base year (Figure 2.3.1). Between 2005 and 2024, UK emissions fell by 9%.[35] In contrast, Northern Ireland's NH_3 emissions have increased between 2005 and 2023, with cattle manure management responsible for 79% of this rise.

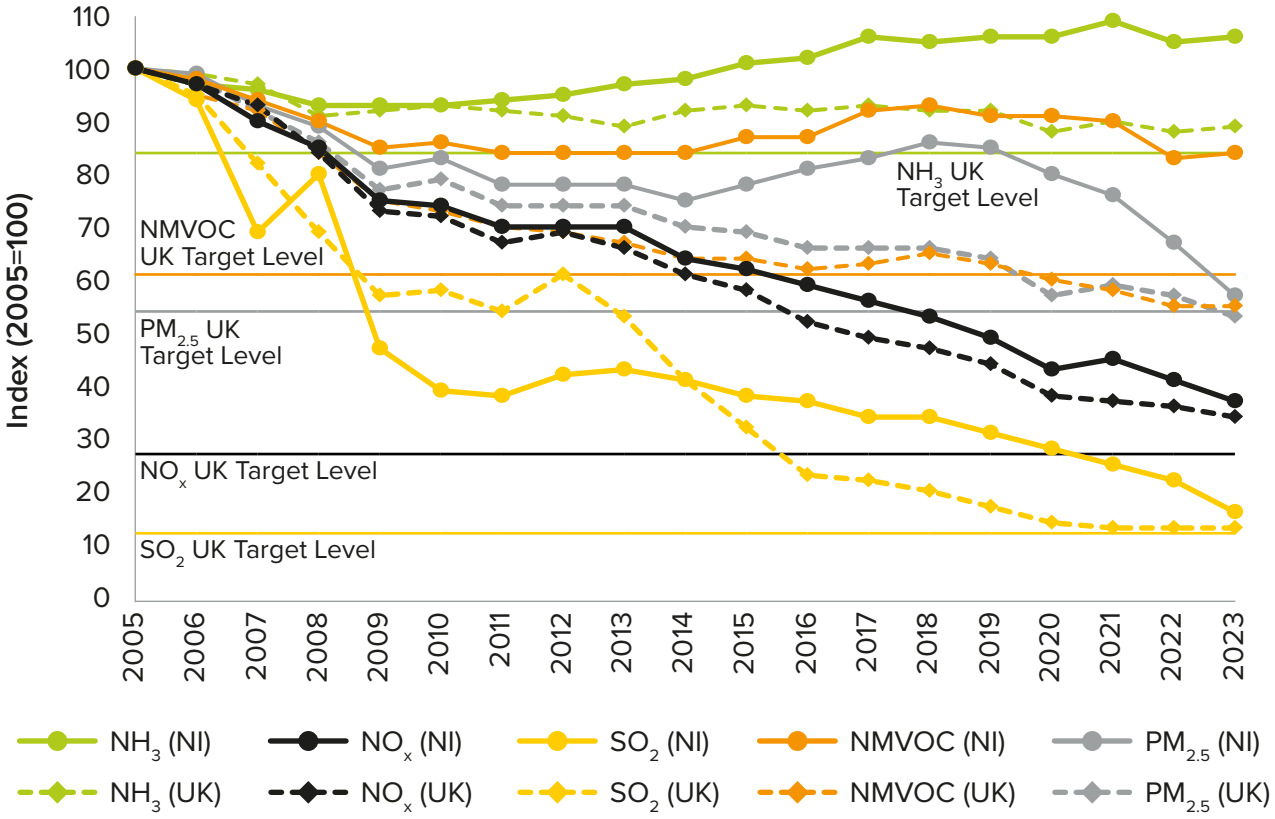


Figure 2.3.1 Emissions of five key air pollutants indexed to the 2005 baseline year defined in the National Emission Ceilings Regulations 2018 (NH_3 -ammonia; NO_x – nitrogen oxides; SO_2 – sulphur dioxide; NMVOC – non-methane volatile organic compounds; $PM_{2.5}$ – fine particulate matter). Diamonds show UK emissions; circles show Northern Ireland only. Horizontal target level lines represent UK-level 2030 emission reduction commitments for each pollutant[21]

Concentrations in ambient air

As of 2024, there was compliance with Air Quality Standards Regulations limit values and target values for all pollutants, including PM_{10}, $PM_{2.5}$, NO_2, O_3, SO_2, CO, benzene, and the elements lead (Pb), arsenic (As), cadmium (Cd), and nickel (Ni). All pollutants also meet the air quality objectives set out in the 2007 UK Air Quality Strategy and the Air Quality Regulations (Northern Ireland) 2003 except for B[a]P, a known carcinogen, which exceeded annual mean objectives at three of four monitoring sites, and represented the highest concentrations measured in the UK in 2024.[31,36,37] Despite long-term declines (1990 to 2004), exceedances of the objective persist, primarily due to residential solid fuel combustion, which accounts for 85.7% of B[a]P emissions.[21]

The Air Quality Strategy objective for O_3 sets an objective of no more than 10 days per year when the maximum daily 8-hour mean exceeds 100 µg/m^3. In 2023 this was exceeded 13 times, but exceedances in 2024 and 2025 were below the threshold. All sites also met the less stringent Air Quality Standards Regulations target value, which allows no more than 25 days above 120 µg/m^3. O_3 levels vary substantially from year to year because its formation depends strongly on sunlight and temperature.[31,38,39]

NO_2 is a pollutant strongly associated with road transport and is typically highest in urban areas. Air Quality Standards Regulations and Air Quality Strategy objectives set an annual mean limit value of 40 µg/m^3 and an hourly mean limit value of 200 µg/m^3 (not to be

exceeded more than 18 times per year). All 16 monitoring sites were compliant in 2024 and 2025, with no hourly limit exceedances recorded between 2020 and 2025. Data from ten urban roadside NO_2 monitoring sites show that annual mean concentrations fell by 17.6% between 2019 and 2024, from 31.4 µg/m^3 to 25.9 µg/m^3; however, this decrease was not statistically significant.[31,40,41]

Major sources of $PM_{2.5}$ include residential wood and coal burning, industrial combustion, road transport, and secondary sources associated with NH_3 emissions. Air Quality Standards Regulations and Air Quality Strategy objectives set an annual mean limit value of 25 µg/m^3, of which all sites were compliant in 2024 and 2025.[42] The time series provided in the EIP Outcome Indicator Framework for five urban background $PM_{2.5}$ monitoring sites is too short to provide a trend assessment.

However, averaged data from the two urban Automatic Urban and Rural Network stations demonstrate that while annual mean concentrations remain compliant, there appear to be short-term increases in average annual mean levels (hourly measured) across some urban areas, rising from 7.0 µg/m^3 in 2020 to 7.5 µg/m^3 in 2025.[43] Much of the recent improvement took place between 2019 and 2020 in response to Covid-19 restrictions, which led to a 30% reduction in annual mean levels. However, values have risen since restrictions were lifted, but remain below those recorded before 2020.[40,43,44]

Impact on the natural environment

The maximum concentration of pollutants in the air that plants and ecosystems can withstand before being harmed is known as the critical level. The Air Quality Standards Regulations set critical levels for the annual concentrations of NO_x and SO_2, as well as long-term objectives for O_3 concentrations for the protection of vegetation. In 2024, there was compliance with these critical levels and the long-term objectives.[45] Critical levels and loads are also defined for NH_3 and nitrogen deposition respectively; however, unlike those for NO_x and SO_2, they are not statutory targets.[46]

In the short-term there has been a slight decrease in the percentage of land where NH_3 concentrations exceeded the critical levels of 1 µg/m^3 for sensitive non-vascular plants, such as lichens and bryophytes, falling from a three-year average of 93.9% to 92.6% of land area between 2016 and 2021. The percentage of nitrogen-sensitive habitats exceeding this threshold increased from 74.8% in 2003 to 94.5% in 2018, before declining to 84.4% in 2021.[46]

The 3 µg/m^3 band represents concentrations at which NH_3 pollution drives broader ecosystem-level impacts across habitats. The percentage area of land exceeding this level has decreased from 16.1% in 2016 to 12.2% in 2021.[46]

The threshold above which harmful effects of nitrogen deposition on ecosystems become apparent is known as the critical load. From 2003 to 2020, critical loads were exceeded for 100% of sensitive habitats before decreasing to 96.9% in 2021.[46] The magnitude of exceedance, measured using Average Accumulated Exceedance, demonstrates how much nitrogen deposition exceeds ecosystem-specific critical loads, and links atmospheric inputs (for example, pollution) to ecological impacts. In the short-term, Average Accumulated Exceedance showed a statistically significant improvement, decreasing by 15.2% from 13.4 to 11.4 kg N ha^{-1} yr^{-1} between 2016 and 2021.[46]

Table 2.3.1 Air quality – summary assessment of key short-term trends

Indicator	Indicator trend	Indicator time period
Emissions of five key pollutants	NO_x  SO_2  NMVOC  $PM_{2.5}$  NH_3 	2018–2023
Annual mean roadside levels of nitrogen dioxide as measured in micrograms per cubic metre ($\mu g/m^3$) at ten sites across NI		2019–2024
Annual mean urban background levels of $PM_{2.5}$ as measured in micrograms per cubic metre ($\mu g/m^3$) at five sites across NI		2020–2025
Area of land exposed to damaging levels of ammonia (NH_3) in the atmosphere		2016–2021
Percentage of nutrient-sensitive habitat area where nutrient nitrogen critical loads are exceeded		2016–2021
Average Accumulated Exceedance of nutrient nitrogen critical loads (kg N ha^{-1} yr^{-1})		2016–2021

2.3.3 Progress towards ambitions, targets and outcomes

Overall progress towards targets and outcomes was limited over the annual reporting period. There have been some promising examples of tangible progress across sectors, but persistent strategic-level delays and gaps remain. The APR 2026 reports progress on eight actions, half of which are delayed and progressing to a new timeline. A summary assessment is provided in Table 2.3.2 with further detail below.

Emissions and Ambient Air Quality Compliance

Progress towards reducing ambient air quality under the Air Quality Standards Regulations and the ERC targets under the NECR was mixed over the reporting period. As of 2023, the apportioned contributions towards the NECR Phase 1 ERC show that Northern Ireland has achieved the required percentage reductions for most pollutants. However, limited progress on NMVOCs and NH_3 means emissions still exceed the Phase 1 ERCs for these pollutants as well as the stricter Phase 2 ERCs that will apply from 2030 onwards.

Localised emission sources continue to undermine ambient air quality, despite overall improvements across trends and widespread compliance with statutory limit and target values under the Air Quality Standards Regulations (Northern Ireland) 2010. No exceedances of $PM_{2.5}$ or NO_2 were recorded during the reporting period, although urban monitoring sites indicate rising $PM_{2.5}$ concentrations in the short-term. These localised emissions stem mainly from residential solid fuel combustion and road traffic. There are additional contributions from transboundary pollution which is largely attributable to agricultural emissions in the UK and contributes materially to urban $PM_{2.5}$ levels.[47]

Under the Environment Order (Northern Ireland) 2010, local councils must declare Air Quality Management Areas where Air Quality Strategy objectives are not being achieved and prepare action plans in pursuit of compliance. In 2024, 19 such areas remain designated across nine local councils, predominantly triggered by NO_2, but also PM_{10}.[31] Challenges remain from persistent localised pollution from road transport, residential combustion and agricultural NH_3.

Ambient air pollution continues to exceed non-statutory World Health Organization (WHO) health-based air quality guideline levels for the pollutants most harmful to the UK population.[24] In 2024, when assessed against WHO guidelines, annual mean $PM_{2.5}$ concentrations were above the 5 µg/m^3 level at all urban sites, NO_2 exceeded the 10 µg/m^3 level at most sites, PM_{10} surpassed 15 µg/m^3 at two sites, and O_3 was non-compliant with peak-season mean thresholds at all locations.[31] Progress in introducing more stringent, health-based standards has been limited by delays in finalising the Clean Air Strategy and Climate Action Plan.[11,26,28,48]

Strategic policy and governance

Action over the annual reporting period to strengthen strategy, targets and governance was limited. The level of transparency and accountability regarding the delivery of ERCs remains weakened following the revocation of the National Air Pollution Control Programme provisions in the NECR under the Retained EU Law (Revocation and Reform) Act 2023.[49,50] This removed the statutory requirement to produce, review and adapt emission reduction plans when ERCs are missed or projected to be missed.[51]

The Clean Air Strategy and Ammonia Strategy remain in development. The draft Clean Air Strategy was released for consultation in November 2020, and the draft Ammonia Strategy in early 2023. The APR 2026 reports that their development is progressing to a new timeline and attributes delays to staffing constraints and competing priorities.[11] The evolution of policy since the publication of the 2007 UK Air Quality Strategy means that it now provides limited direction for delivering current policy ambitions.

In our response to the draft Climate Action Plan consultation, we noted that the draft did not meet the legal requirements of the Climate Change (Northern Ireland) Act 2022 in

establishing annual air quality targets in the plan.[52,53] We suggested that if air quality targets are established, DAERA should demonstrate how they will achieve outcomes in line with the requirements of the Climate Change (Northern Ireland) Act 2022. The targets should be specific, measurable, achievable, relevant and time bound. While the plan remains in draft form, we welcome the proposed strengthening of annual average targets/limits/objectives for $PM_{2.5}$ and PM_{10}.

Road transport

Progress in reducing air pollution from road transport during the reporting period is limited. Vehicle efficiency has improved, but rising travel demand associated with population growth has driven an increase in road transport emissions, alongside a shift towards larger vehicles.[54] We welcome the Zero Emission Vehicle (ZEV) mandate which came into force in January 2025 supporting the transition to electric vehicles, and aligning with the UK regulatory framework.[55] However, uptake remains limited and electric vehicle charging provision remains poor (see Chapter 7).

Increased uptake of ZEVs will reduce tailpipe emissions, although non-exhaust sources such as tyre and brake wear now account for the largest proportion of total road transport $PM_{2.5}$ emissions.[34,56] These sources are not currently included in UK emissions standards for new vehicles.[56–58] In July 2024, the Department for Infrastructure consulted on proposals to introduce a Particle Number test for modern diesel vehicles as part of the Ministry of Transport test, aimed at identifying malfunctioning particulate filters and excess ultrafine particle emissions. However, Department for Infrastructure have not yet published its response to the consultation, which closed in September 2024, and the measure has therefore not been implemented.[59] Limited progress has also been made in promoting active travel and current spending is falling short of required levels to satisfy Climate Change Act (Northern Ireland) 2022 requirements, which would help to reduce road transport emissions (see Chapter 7).[60]

Residential and industrial combustion

Progress in reducing residential heating has been limited and remains a major source of ambient air pollution. Residential combustion as a source of $PM_{2.5}$ has increased over the past two decades due to greater use of wood fuel and the growing popularity of wood stoves, alongside the already high proportion of off-gas-grid households.[31,34,61]

Policy measures to combat ambient air pollution, such as smoke control areas, enabled under the Clean Air (Northern Ireland) Order 1981, are now in place across almost all local councils.[31] However, their effectiveness is constrained by enforcement challenges, particularly in relation to unauthorised burning and fuel sales.[26]

Progress in reducing industrial emissions has been mixed. Industrial emissions are regulated through the Pollution Prevention and Control (Industrial Emissions) Regulations (Northern Ireland) 2013.[62] Industrial emissions have reduced through the transition from coal- and oil-fired generation to gas-based technologies, which has reduced SO_2 emissions. Abatement technologies have also reduced $PM_{2.5}$ and NO_x.[21]

However, energy from waste facilities and anaerobic digestion are associated with increases in NO_x, PM_{10} and NH_3 emissions.[26] Regulatory coverage has been extended as requirements flowing from the Medium Combustion Plant Directive have come into force, under which all 5–50 MW plants were required to be permitted by January 2024 and must

meet emission limit values by January 2025.[63] However, flexibility provisions for district heating and biomass allow less stringent or delayed limits to support decarbonisation. This means that emissions reductions, particularly for NO_x and particulate matter, may be slower to materialise in the short-term.[26]

Agriculture

The publication of the Making Ammonia Visible report in 2017 brought renewed attention to NH_3 pollution in Northern Ireland.[64] However, since then there has been no progress made in reducing NH_3 emissions from agriculture. The draft Ammonia Strategy was released for consultation in early 2023 and since then there has been continued delays in finalising the Strategy. This demonstrates a clear lack of urgency.

The draft Ammonia Strategy initially proposed universal measures for all farms alongside targeted approaches for areas near protected sites.[20] However, DAERA's post-consultation update (February 2025) confirms that the Site-Specific Programme now sits outside the draft Strategy.[65] The spatially targeted measures within the Programme will be developed through a stakeholder co-design process that has yet to begin, creating further delays. Progress has also been slowed by the need to complete the Nutrient Action Programme review, first consulted on in July 2025, which will mandate measures such as low-emission slurry spreading equipment and the use of urease inhibitors.[66]

Our response to the draft Ammonia Strategy in March 2023 identified areas for improvement, but also recognised that it set out a comprehensive package of proposals to 2030, including an ambitious non-statutory commitment to reduce NH_3 emissions in Northern Ireland by 30% from 2020 levels.[67] This was considered a fair and proportionate contribution toward meeting the UK-level ERCs under the NECR.

However, DAERA's post-consultation update revised the proposed non-statutory 2030 NH_3 commitment to align with the UK's 2030 ERC under the NECR.[65] This target requires a 16% reduction from 2005 agricultural NH_3 emissions levels by 2030. With 2023 emissions at 30.8 kt, achieving this means reaching around 24.2 kt by 2030, a 21.5% reduction from current levels.[65] While this matches the scale of UK-level legal commitments, it represents a substantial reduction in ambition compared with the draft Ammonia Strategy, meaning concentrations at most nutrient sensitive sites are likely to remain above critical thresholds.[20]

The draft Ammonia Strategy also included a non-statutory 2050 commitment 'to reduce ammonia emissions to a point where Critical Loads of nitrogen deposition and Critical Levels of ammonia are at a more sustainable and pragmatic place'.[20] Following consultation, this target has been strengthened to reduce NH_3 emissions so that critical nitrogen loads and NH_3 levels are not exceeded at any designated sites.[65] However, neither the draft strategy nor the post-consultation update sets out a comprehensive set of actions to deliver this ambition beyond 2030, and it remains unclear whether the final strategy will address this gap.

We also emphasised the need for a legally compliant Operational Protocol to guide planning applications affecting NH_3 emissions. Following our investigation, which concluded in October 2024, this issue has now been resolved.[68,69] This represents a positive step forward.

Improved monitoring

The APR 2026 reports progress in strengthening monitoring and data collection, enhancing insights into the impacts of road transport and energy decarbonisation policies on air quality.

The air quality monitoring network has continued to expand and now comprises 23 stations, including an additional monitor installed in 2024. Since 2020, three further stations measuring PM_{10} and two measuring $PM_{2.5}$ have been added.[31]

Further progress is needed to improve data capture across locally managed automatic monitoring sites, particularly those used to assess ambient $PM_{2.5}$ and NO_2 indicators as part of the annual progress review, as data losses and gaps are evident. Variations in site types, monitoring equipment and measurement methodologies across local networks, as well as the temporary removal and relocation of equipment, continue to limit the consistency and overall quality of the evidence base.

Increased public awareness

The EIP sets out a forward-looking vision to enhance public awareness of the health impacts of poor air quality and pollution sources. This is reflected in the APR 2026, which highlights progress including improved access to air quality monitoring data through a dedicated website and the Air Aware app.[70]

The Air Aware app provides real-time alerts when elevated pollution levels are detected or forecast, with notifications also available via SMS. The Northern Ireland Air website continues to support awareness by offering current data, forecasts, health advice, educational resources, and access to archived reports.[71,72]

In November 2025, DAERA published its latest annual air pollution report and launched an air quality survey alongside Clean Air Day 2025 to understand public awareness of air quality issues.[31,73] No survey results have been published, and no commitment to do so has been identified.

Table 2.3.2 Air quality – summary assessment of progress over the annual reporting period towards meeting targets and outcomes

Targets and outcomes	Progress
National Emission Ceilings Regulations 2018, emission reduction commitments	**Mixed**
Air Quality Standards Regulations (Northern Ireland) 2010 limit values, target values and long-term objectives	**Mixed**
Ammonia emissions reduced to a point where critical loads on nitrogen deposition and critical levels of ammonia are not being exceeded at any designated sites	**Limited**

2.3.4 Prospects of meeting ambitions, targets and outcomes

Overall, the prospects of achieving the EIP outcomes for air quality are partially on track. A summary assessment is provided in Table 2.3.3 with further detail below.

Emissions of air pollutants

Prospects of meeting NECR ERCs are partially on track. Significant reductions in line with Phase 1 ERCs have been achieved for most pollutants, except NH_3 and NMVOCs. Phase 2 ceilings are more stringent and will require even further reductions in NH_3 and NMVOCs.

The revocation of the National Air Pollution Control Programme provisions in the NECR mean that there is no clear mechanism to revise delivery plans when ERCs are off track or missed, posing a risk to future compliance. A UK-wide Emissions Reduction Subgroup has been established as a non-legislative alternative, but its transparency and ability to trigger delivery plan revisions remain uncertain.[74]

The prospect of reducing agricultural NH_3 emissions by 21.5% to make a proportionate contribution to achieving the 2030 ERCs is unlikely to be achieved, reflecting the scale of the challenge and limited progress to date. This will have consequences for sensitive ecosystems and will also constrain progress in reducing secondary $PM_{2.5}$ formation, which is a threat to human health.

Concentrations in ambient air

The prospects of achieving the Air Quality Standards Regulations (Northern Ireland) 2010 limits and targets are largely on track. They are being met for all pollutants, and despite evidence of rising urban $PM_{2.5}$ levels, average annual mean values remain well below limit and target values.

The Clean Air Strategy is expected to strengthen ambition and introduce more stringent air quality objectives, particularly as it outlines this for $PM_{2.5}$ and PM_{10} in line with a No Safe Level approach, the draft Climate Action Plan, and WHO guidelines. The draft strategy identifies the need for further action on key sources such as residential combustion, driven by continued reliance on solid fuels, oil, and inefficient heating appliances.

However, it remains unclear whether sufficient investment and effective implementation, particularly in monitoring, public awareness, and enforcement of smoke control areas, will be delivered. A UK wide consultation launched in January 2026 proposes additional measures, including tighter appliance standards and mandatory labelling, signalling increased policy ambition.[75,76]

Continued delays in publishing the Clean Air Strategy, attributed in the APR 2026 to resource constraints and shifting priorities, are hindering prospects for improved air quality.

Future reductions in emissions of NO_x and $PM_{2.5}$ will, in part, rely on progress in addressing transport emissions by accelerating the adoption of electric vehicles (see Chapter 7) and promoting alternative modes of travel, such as walking, cycling and public transport. However, major programmes such as greenways and cycling networks remain behind schedule (see Chapter 3).

Road transport is a key source of NO_2 in ambient air. The development of an Air Quality module within the Department for Infrastructure's Transport Emissions Model by June 2026

would be a positive step towards strengthening the evidence base for transport-related emissions. By incorporating more localised data and improving the modelling of traffic patterns and emissions, it will enhance the ability to assess future scenarios and target interventions more effectively to reduce road transport emissions and its impact.

The deployment of smart sensor technology to monitor the volume of traffic and active travel movement into and out of Belfast City further supports this objective. While not an air quality specific measure, it will improve understanding of traffic flows, peak pressures, and seasonal variation, helping to refine traffic data and inform future monitoring and interventions.

Prospects for addressing ambient air pollution at the local level are supported by the continued use of Air Quality Management Areas, which strengthen monitoring and management across local councils. However, reducing exceedances of pollutants such as B[a]P in line with air quality objectives will require targeted action to curb the use of solid fuels for residential heating.

Prospects for reducing ambient $PM_{2.5}$ and PM_{10} will depend in part on the ambitions set out in the final Clean Air Strategy. The draft Strategy cites the 2005 WHO Air Quality Guidelines annual means of 10 and 20 µg/m^3 respectively – levels that now correspond to the less stringent 2021 WHO Interim Target 4. These potential ambitions are already being met nationally, so prospects of achieving them are on track. However, further progress would be required if more ambitious targets were set to meet the full 2021 WHO guideline values of 5 µg/m^3 and 15 µg/m^3 respectively, which would further reduce harm to health.[26,77]

Impact on the natural environment

The lack of progress of NH_3 reductions undermines prospects of achieving the objective to reduce the proportion of land area where NH_3 concentrations exceed the critical threshold of 1 µg/m^3. It also threatens progress toward wider environmental targets, including achieving the conservation or restoration of all semi-natural peatlands to healthy, functioning ecosystems by 2040 (see Chapter 4).

Even once the Ammonia Strategy is finalised, significant barriers remain to implementing the actions needed to reduce emissions from agriculture. These include the behavioural change required, uptake of recommended measures, funding for capital-intensive interventions, and continued innovation. These obstacles risk delaying progress and reducing the Strategy's environmental impact. Persistent gaps in policy coherence and action also hinder effective management of the synergies and trade-offs needed to deliver the intended outcomes.

Most measures in the draft Ammonia Strategy are voluntary, with only two expected to become mandatory through the revised Nutrient Action Programme.[66] Given this, it is essential that the implementation plan clearly outlines the funding and advisory support available to farmers to encourage uptake of the voluntary measures. Encouragingly, the most recent report on the draft Ammonia Strategy detailed how each voluntary measure will be supported through the Sustainable Agricultural Programme, providing a foundation for increased participation.[65]

As part of the Sustainable Agricultural Programme, the forthcoming Sustainable Farm Investment Scheme, scheduled for launch in 2026, will be pivotal in facilitating the rapid adoption and implementation of capital-intensive solutions, such as Low Emission Slurry

Spreading Equipment and the covering of existing slurry storage tanks.[78] However, even with funding in place, the manufacturing and delivery lead times for new Low Emission Slurry Spreading Equipment could present significant barriers to effective implementation over the coming years.[67]

Another major challenge lies in the behavioural change required among farmers to adopt and successfully implement the recommended measures. This is particularly relevant for the Site-Specific Programme, that is linked with the draft Ammonia Strategy, where robust support services will be necessary to enable farmers to change practices swiftly enough to meet the NH_3 reduction requirements stipulated by the NECR. Initiatives such as the Farming for Sustainability-Innovation Scheme and the Farming for Sustainability-Knowledge Scheme, both launched in 2025, will play a vital role in equipping farmers with the tools and knowledge they need to deliver on the measures proposed in the draft strategy.[78] Better integration and coordination of these programmes will strengthen support for farmers and improve prospects of achieving environmental outcomes.

Improved monitoring

The APR 2026 sets out plans to maintain and enhance the Automatic Urban and Rural Monitoring Network, ensuring no loss of capacity outside DAERA's control. This supports prospects for meeting air quality targets, as the network operates under strict technical requirements within Defra's national framework, ensuring robust site selection, equipment standards, and data quality. If more ambitious commitments are introduced, such as tighter objectives for $PM_{2.5}$ and PM_{10}, accurate and reliable monitoring will be essential for demonstrating compliance and driving improvements.

The APR 2026 also outlines intentions to expand monitoring capacity across a wider range of pollutants and locations, strengthening the ability to take effective action on local air quality and emissions. Continued support through the Local Air Quality Management Grant enables local councils to meet statutory responsibilities for maintaining and improving monitoring infrastructure.

Additional investment in 25 NH_3 monitors since 2019, now incorporated into the National Ammonia Monitoring Network, is particularly welcome given existing data gaps. The expanded 28-site Northern Ireland network will provide stronger evidence base for assessing progress in reducing atmospheric NH_3 concentrations, once the validation issues identified by UK Centre for Ecology & Hydrology have been resolved.[40]

Public Awareness

DAERA's commitment to raising public awareness of air pollution is encouraging and supports prospects for achieving air quality targets and outcomes in the EIP. Making local air quality information easily accessible empowers individuals and communities to understand how their actions, both individually and collectively, affect health and environment. Public awareness is a key driver of behavioural change, equipping people with the knowledge they need to alter their actions, influence decisions, and advocate for improvements in air quality, within their own communities and beyond.

Greater awareness of NH_3, particularly its role in forming secondary particulate matter, remains important. Alongside this, improving public understanding of emissions from residential heating, especially the use of solid fuels and wood-burning stoves, is critical to strengthening progress towards ambient air quality targets.

Table 2.3.3 Air quality – summary assessment of prospects of meeting targets and outcomes

Targets and outcomes	Prospects
National Emission Ceilings Regulations 2018, emission reduction commitments	**Partially on track**
Air Quality Standards Regulations (Northern Ireland) 2010 limit values, target values and long-term objectives	**Largely on track**
Ammonia emissions reduced to a point where critical loads on nitrogen deposition and critical levels of ammonia are not being exceeded at any designated sites	**Largely off track**

2.3.5 Opportunities for improvement

Finalising and publishing the draft Clean Air Strategy would provide an opportunity to restore strategic direction and governance for air quality in Northern Ireland. Continued reliance on the outdated UK-wide Air Quality Strategy (2007) limits the development of coherent policy to improve air quality, protect the environment, and safeguard public health.

With the Clean Air Strategy, Climate Action Plan and Ammonia Strategy all progressing through draft stages simultaneously, there is a unique window to align these frameworks. Ensuring coherence now will help avoid policy conflicts, strengthen delivery, and maximise environmental and public health outcomes.

The draft Clean Air Strategy sought views on aligning particulate matter objectives with WHO 2005 guidelines, which were subsequently updated in 2021. The draft Clean Air Strategy and Climate Action Plan ambitions should therefore be revised to incorporate the latest evidence and align with the more stringent WHO guideline levels.

We welcome the APR's confirmation that DAERA is developing new air quality targets and intends to explore the feasibility of introducing new regulations that would establish more stringent annual average limits, targets and objectives for $PM_{2.5}$ and PM_{10} of 10 and 20 µg/m^3 respectively. However, this level of ambition is insufficient: these targets are already being achieved nationally, and no consideration is given to exploring the feasibility of introducing stronger limits, targets and objectives for these pollutants or other harmful emissions such as NO_2 and O_3.

The Clean Air Strategy should also undertake horizon scanning for emerging or less well-understood pollutants, including micro- and nanoplastics, and those with localised health impacts (such as from O_3 and B[a]P), to strengthen the evidence base for future policy development.[79]

Aligning legal ambient air quality standards more closely with the full WHO guideline levels would reduce health impacts, particularly for vulnerable and deprived communities disproportionately affected by air pollution.[22,25,48] The pollutants with the greatest health impacts in the UK – $PM_{2.5}$,PM_{10}, NO_2, and O_3 – were all non-compliant with WHO guidelines during the reporting period. Given this, we encourage DAERA to assess the feasibility of introducing stronger limits, targets, and objectives in line with the full WHO guideline levels: annual averages of 5 µg/m^3 for $PM_{2.5}$, 15 µg/m^3 for PM_{10}, 10 µg/m^3 for NO_2, and 60 µg/m^3 for O_3 (based on the WHO six-month average of daily maximum 8-hour means).[48]

There are opportunities to strengthen progress against the NECR ERCs, where Northern Ireland's contributions to the UK's NH_3 and NMVOC emissions currently threaten achievement of Phase 2 ERCs post-2030. Recent increases in NMVOCs associated with slurry spreading underline the need for careful management of soil inputs.[21,74] There is also an opportunity to address NH_3 and NMVOC emissions during the current revision of the Nutrient Action Programme, while other opportunities are available to address NMVOC through the implementation of the Ammonia Strategy. Optimising soil nutrient applications through the Soil Nutrient Health Scheme can further reduce both NMVOC and NH_3 emissions by limiting manure over-application.[80] Uptake of the scheme has been strong, but sustained use of nutrient management planning to inform manure and fertiliser applications will be necessary to maintain improvements.[46,81] Effective implementation of the Ammonia Strategy, underpinned by strong stakeholder engagement, will provide an opportunity to speed up behavioural change and deliver the 2030 NH_3 ERC through coordinated action across related programmes.

There are opportunities to address key sources of ambient air pollution, namely solid fuel use and inefficient heating, by reviewing the effectiveness of smoke control areas and enforcement, particularly given their limited coverage in some local councils and ongoing challenges with monitoring and enforcement. These issues are constraining efforts to tackle exceedances of B[a]P objectives and rising urban concentrations of pollutants such as $PM_{2.5}$.

While further action on residential combustion and road traffic sources is needed to reduce ambient concentrations of $PM_{2.5}$ and PM_{10}, greater gains could be achieved by reducing agricultural NH_3 emissions. Nitrogen compounds (NH_3 and NO_x) are key $PM_{2.5}$ precursors accounting for 39% of $PM_{2.5}$ concentrations.[82–84] This opportunity is particularly significant in Northern Ireland, where agriculture produces 97% of NH_3 emissions and levels remain above ERCs.

Improving the consistency and reliability of air quality monitoring across local councils would strengthen confidence in the evidence base, particularly for assessing ambient indicators for $PM_{2.5}$ and NO_2. Our assessment and the APR 2026 highlight evidence gaps in these indicators, partly because locally managed automatic monitoring stations use varying methodologies and experience data losses. Standardising monitoring approaches and reducing data losses would further strengthen the evidence base.

Efforts to improve how air quality information is communicated should be accelerated to ensure publicly available resources remain accessible and effective. Tools such as Air Quality NI and the Air Aware programme, which provide real-time data, pollution mapping and health messaging, play an important role in supporting public awareness and responding to pollution incidents. DAERA should ensure these resources are clearly communicated, widely used and regularly reviewed. Greater effort is also needed to address the low public awareness that the use of solid fuel and inefficient heating appliances harms people's health.

Initiatives such as the Partnership for Evidence and Action on Clean Air (PEACE-Air) project, a €6.5 million programme funded by PEACEPLUS (a cross-border peace and prosperity initiative funded by the UK, EU and the Republic of Ireland) are expected to improve cross-border monitoring, research and policy coordination. This supports draft Clean Air Strategy ambitions to strengthen collaboration across the island of Ireland, and better integrate air quality with public health evidence.[85]

Policy coherence will be essential to achieving air quality and climate objectives. $PM_{2.5}$ is produced from biomass combustion, and NH_3 from spreading anaerobic digestate generated through biogas production, illustrating how actions in one area can affect another. As highlighted in our Nutrient Action Programme report, the Ammonia Strategy must align with both the Nutrient Action Programme and the Climate Action Plan.[86] Because NH_3 is part of the wider nitrogen cycle, changes in nitrogen management under these frameworks will directly influence emissions.

This illustrates the need for an integrated management approach. Addressing these cross-cutting links within the Ammonia Strategy will help maximise synergies and minimise trade-offs. For example, if the focused area approach proposed in the Nutrient Action Programme consultation proceeds, it will need to be aligned with the Site-Specific Programme in the Ammonia Strategy to avoid confusion for farmers and ensure support is delivered effectively.[66]

Effective implementation of the Ammonia Strategy is also vital for delivering the Peatland Strategy, a key element in reducing emissions under the Climate Action Plan and in achieving the emission reduction targets set out in the Climate Change Act (Northern Ireland) 2022.[87] Additional synergies are available, such as reducing crude protein in animal feed, which can lower both NH_3 and NO_x emissions while also reducing nitrate losses to water.

Recommendations for air quality

Recommendation 1: DAERA should publish the Ammonia Strategy without delay, along with a clear delivery plan that sets out the resources, responsibilities and timelines needed to meet the 2030 emissions reduction commitment for NH_3 under the National Emissions Ceilings Regulation 2018. As part of this recommendation, DAERA should prioritise the accelerated delivery of the Site-Specific Programme to reduce ammonia pressures on terrestrial protected sites.

Recommendation 2: DAERA should publish the Clean Air Strategy without delay, along with a clear delivery plan that sets out the resources, responsibilities, and timelines. To ensure the targets within the strategy are ambitious and grounded in the most up-to-date evidence, DAERA should explore the feasibility of adopting the WHO Air Quality Guidelines for the pollutants most harmful to the UK population – $PM_{2.5}$, PM_{10}, NO_2, and O_3.

Table 2.3.4 Air quality – summary assessment

Past trends	Emissions for all ERC pollutants decreased between 2018 and 2023 except ammonia. Ambient air quality improved. Exceedances of critical loads and levels of nitrogen and ammonia remain widespread but have reduced slightly.	**Improving trends dominate**
Progress in the reporting period	There were positive actions on the Zero Emission Vehicle mandate, expanded monitoring and public awareness, and cleaner fuels and abatement technologies in industry. However, delays finalising Clean Air and Ammonia Strategies and weakened ERC accountability hinder progress. Lack of action on improving electric vehicle uptake and infrastructure, active travel, enforcement of smoke control areas, and agricultural measures to combat ammonia allow major pollution sources to persist.	**Limited**
Overall prospects of meeting ambitions, targets and outcomes	Two of five 2030 ERC are unlikely to be met, with further action needed for ammonia and NMVOCs. This is essential to reduce ammonia emissions so that critical loads and levels are not exceeded at any designated site. Prospects of meeting ambient air quality standards targets are largely on track, with draft Clean Air Strategy ambitions for $PM_{2.5}$ and PM_{10} already achieved.	**Partially on track**
Robustness	There is well established monitoring and reporting framework for emissions and air quality. However, there is scope for improvement in monitoring of urban $PM_{2.5}$. National Ammonia Monitoring Network dataset should be incorporated when available. Improvements in consistency, quality, and transparency of local air quality monitoring would reduce data gaps.	

2.4 Water resources: quality and quantity

2.4.1 Context and commitments

The aquatic environment has a crucial role in sustaining both the natural environment and human society. It provides drinking water, wastewater management, recreation, tourism and fisheries and is a key resource in many industrial processes. However, the use of aquatic resources has had a detrimental impact on water quality and quantity and on habitats and species.

The Water Framework Directive (WFD) is the primary legal framework for water protection, and is implemented domestically through the Water Environment (Water Framework Directive) Regulations (Northern Ireland) 2017 (WFD Regulations).[88] Key objectives of the Directive are to protect, enhance and restore all bodies of surface water and groundwater with the aim of achieving good status, and to prevent their deterioration. River Basin Management Plans (RBMPs) provide the framework to achieve the WFD Regulation objectives and a statutory requirement under the WFD Regulations is that they be reviewed and, where appropriate, updated every six years. RBMPs must contain a summary of the measures to achieve specific water body level environmental objectives.

Achieving good status for surface waters requires meeting a suite of ecological and chemical thresholds. For groundwater, good status is determined by chemical and quantitative standards rather than ecological factors. The EIP commitments represent a subset of the overall statutory WFD Regulations targets, focusing only on achieving Good Ecological Status in all surface waters and Good Chemical Status in all groundwater bodies by 2027.

Achieving Good Ecological Status in all surface waters and Good Chemical Status in all groundwater bodies by 2027 requires that a wide range of environmental pressures be addressed. For a surface water body to achieve Good Ecological Status it must meet criteria relating to biological, hydromorphological, and chemical quality elements. However, the EIP focuses primarily on nutrients in surface and groundwater. It specifically seeks to address nutrients from agriculture, with the contribution from wastewater notably absent.

Our previous assessment of the drivers and pressures affecting terrestrial and freshwater biodiversity highlighted land use change and pollution, in particular from nutrients, as the two main pressures causing biodiversity decline.[89] We emphasised the importance of addressing nutrients inputs to water from both agricultural and wastewater. Other pressures identified included hydromorphology, ecological flows and contaminated land, none of which are addressed within the EIP.

In addressing pressures, the WFD relies heavily on the implementation of other related EU directives, notably the Urban Waste Water Treatment Directive and the Nitrates Directive.[90,91] In addition, several domestic regulations play a crucial role in achieving the environmental objectives set out in the WFD Regulations. For example, the Water (Northern Ireland) Order 1999 provides a legal framework for the management, protection, and regulation of water resources in Northern Ireland.[92]

The primary focus of our assessment is on achieving Good Ecological Status in all surface waters and Good Chemical Status in all groundwater bodies by 2027. We have also included the EIP target of attaining sustainable management and efficient use of natural resources, including water and soils, by 2031. This is a crucial commitment for both the land quality element of this SEO and for delivering on the source-to-sea approach included in the APR 2026. The APR 2026 states that land quality refers to the health and productivity of soils, the cleanliness of local environments, and the absence of contamination. Enhancing land quality will be significantly affected by sustainable management of natural resources, with consequences throughout the source-to-sea continuum.

2.4.2 Key environmental trends

A summary assessment is provided in Table 2.4.1 with further detail below.

Phosphorus and nitrogen

Trends in nitrogen and phosphorus concentrations in rivers have not improved over the previous decade. Minor improvements are more indicative of variation due to fluctuating environmental and economic factors than a sign of progress in reducing nutrient inputs.

In the short-term, average soluble reactive phosphorus in rivers was 0.063 mg/l in 2019 and 0.065 mg/l in 2024 which was not a statistically significant change.[93] In the longer-term concentrations have decreased from a high of 0.083 mg/l in 2005 to 0.047 mg/l in 2012, before increasing steadily since then.

The picture for nitrate concentration in rivers differs, with a statistically significant short-term improvement within a fairly stable long-term trend. Between 2019 and 2024, the percentage of samples with less than 10 mg/l NO_3 increased from 79.6% to 90.6%.[93] However, the long-term trend remains stable, with the percentage of samples with less than 10 mg/l NO_3 fluctuating between years, ranging from 71.1% in 2006 to 95% in 2016.

Analysis in the Nutrient Action Programme implementation report (2020-2023) shows that while aggregate trends in NO_3 concentration in rivers appear relatively stable, in recent years, there has been an increase in the number of sites showing increasing levels of nitrate in freshwaters, particularly in the south and east.[94]

Annual mean nitrate concentrations in groundwater have slightly increased in the short-term with the number of groundwater samples with less than 25 mg/l NO_3 decreasing from 94.4% to 93.8% between 2018 and 2023. Longer-term trends show an improvement in nitrate detections from 2000 to 2010 (81.9% samples with less than 25mg/l NO_3 in 2000 increasing to 98.2% in 2010), then holding relatively steady from 2010 onwards.[93]

The main sources of nutrients in waterbodies are agriculture and wastewater. Phosphorus and nitrogen balances are agricultural sector measurements that provide an indication of the phosphorus and nitrogen surplus (or deficit) for the sector. Nutrient balances also provide an indicator of the risk of nutrient losses from agriculture to the environment (air and water). Data provided by DAERA show that in the long-term, both nitrogen and phosphorus balances show similar trends.[95] There has been a generally decreasing trend between 1991 and 2008 for nitrogen and 2009 for phosphorus with fluctuations since then. Phosphorus surplus has slightly increased in the short-term from 9.7 kg/ha in 2021 to 10.1 kg/ha in 2024, whereas there is almost no change in nitrogen surplus (137.0 kg/ha in 2021 and 135.6 kg/ha in 2024). Both nitrogen and phosphorus surpluses remain at levels that pose a risk to the environment.

Available data on nutrient inputs from wastewater are more limited and do not enable assessment of trends. We are undertaking analysis that will enable us to provide a fuller picture of nutrient inputs from both agriculture and wastewater in our next progress assessment.

Drinking water quality and quantity

Compliance with drinking water quality standards is high, except for localised issues with pesticides in some catchments that have implications for treatment and supply. Compliance with regulatory standards is much lower for water from private supplies, which is a concern, particularly as there is limited testing of these supplies.

Pesticides are monitored at the point at which water leaves the water treatment works and enters the supply system. Between 2019 and 2024, pesticide exceedances reached a maximum of 18 out of 236 samples in 2020 and reduced to seven out of 242 samples by 2024 (see Figure 2.4.1).[96,97] All pesticide exceedances except for one are for MCPA (2-methyl-4-chlorophenoxyacetic acid), and the majority are recorded at Derg Water Treatment Works. MCPA is a herbicide used extensively throughout the island of Ireland and its use and consequences are described in detail in Box 2.1.

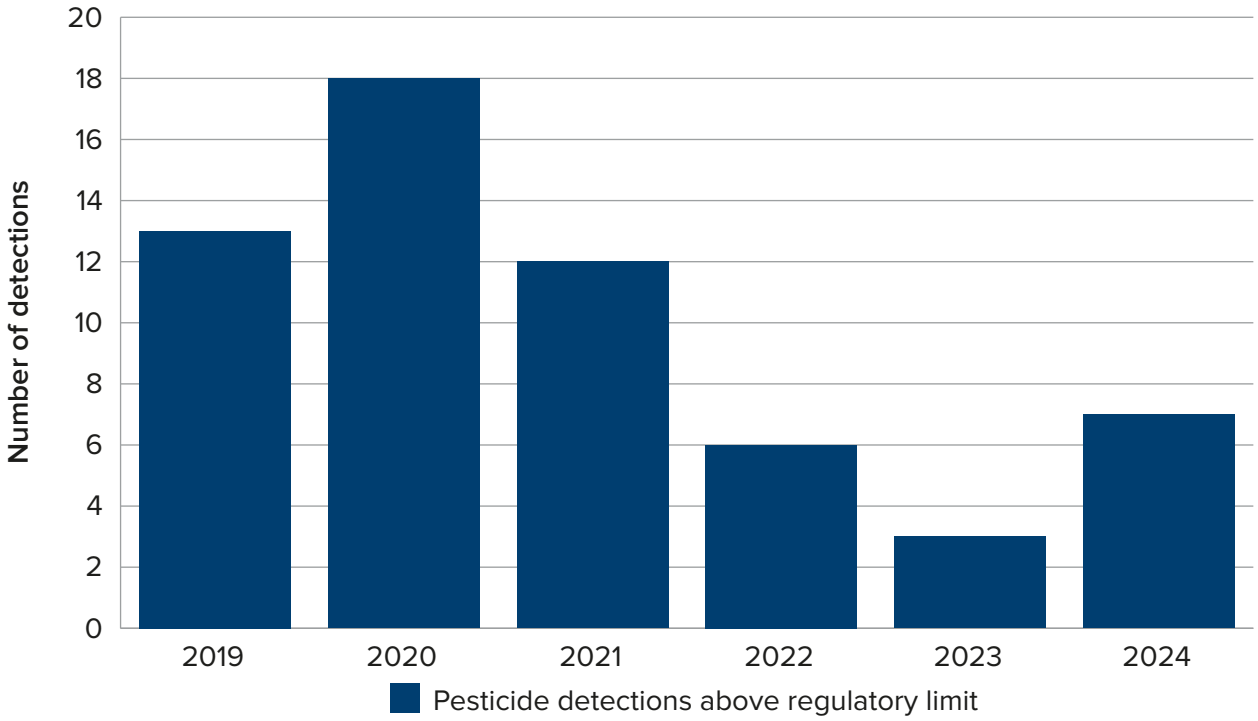


Figure 2.4.1 Annual number of water treatment works samples tested with pesticide concentrations exceeding the regulatory threshold of 0.1µg/l of any individual pesticide[98]

In 2024, out of a total of 100,522 tests used to assess overall regulatory compliance in public drinking water, 118 (0.12%) contravened regulatory standards. This includes 16 tests exceeding the bacteria (coliform / *Escherichia coli*) standard, and 9 exceeding the chemical test standards. Water quality at consumers' taps was also very good, with most exceedances for iron (20 exceedances, or 99.02% compliance).[97]

Private water supplies undergo less comprehensive analysis. Of the 176 sites tested in 2024 full compliance was achieved for 64% (112 sites). Of the 64 sites that did not comply with the regulatory standards, 44% (28 sites) contravened microbiological standards, 50% (32 sites) chemical standards, and 6% (4 sites) failed to comply with both standards.[97]

Pollution incidents

While there were 1,886 water pollution incidents in 2024 (Figure 2.4.2), this is 22% lower than the long-term average for the period 2001 to 2024. In 2024, the largest proportion of substantiated incidents were from farm activity (32.4%), followed closely by 'other' (29.5%), and with NI Water accounting for 8.9% of incidents.

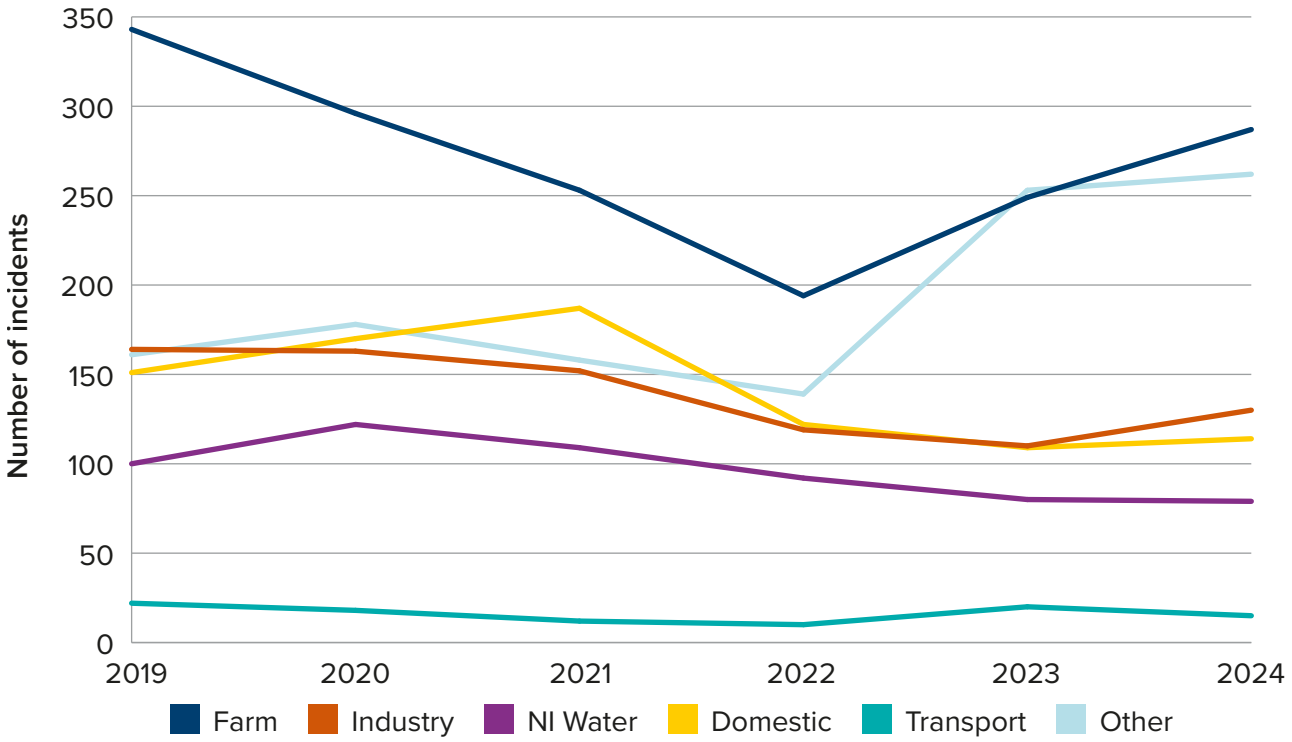


Figure 2.4.2 Source of substantiated water pollution incidents, 2019-2024[93]

The 'other' category includes incidents relating to confirmed occurrences of potentially toxic blue-green algae. These result from long-term, diffuse pollution and cannot be attributed to a single source. In 2024, there were 27 confirmed high and medium severity incidents relating to potentially toxic blue-green algae, a decrease of 60% compared to 2023 (68 confirmed incidents). However, this decrease is likely due to temperature fluctuations rather than nutrient inputs, with average maximum June temperatures of 21.0 °C in 2023 compared to 16.2 °C in 2024.[99]

Surface water Good Ecological Status

Excessive nutrient concentrations, particularly phosphorus, are the main reason surface water bodies are failing to achieve Good Ecological Status.[100] In 2024, 29% of rivers and 24% of lakes achieved Good Ecological Status compared to 31% and 24% respectively in 2018.[101] This reflects a slight decrease in river ecological quality. There are 25 transitional and coastal water bodies. In the years 2018, 2021 and 2024, 10 of these (representing 40%) attained Good Ecological Status.

Most recently available data shows that the proportion of rivers assessed as having poor status due to high phosphorus concentrations increased from 5.6% (2012 to 2015) to 9.2% in the 2020 to 2023 period.[102] For lakes, the percentage achieving good or high status for total phosphorus declined sharply by 55% between 2014 and 2019.[100]

Surface water Good Chemical Status

No surface water bodies met the Good Chemical Status objective in 2024. This reflects the fact that new assessments for uPBTs (ubiquitous, persistent, bioaccumulative and toxic substances) were included for the 2019 chemical classifications, as well as new standards, improved techniques and methods. When uPBTs and cypermethrin (an insecticide) are excluded from the analysis, 92% of rivers and 100% of lakes achieve Good Chemical Status

in 2024.[101] This highlights the widespread and chronic effect these chemicals are having on surface water bodies.

Groundwater Status

Most recently available data shows that in 2021 68% of 75 groundwater bodies achieved good overall status, an increase from 65% in 2015.[103] Good status includes groundwater quantity and chemical status. When looking at chemical status alone, 71% of groundwater bodies achieved Good Chemical Status in 2021, an increase from 68% in 2015.

Table 2.4.1 Water resources: quality and quantity – summary assessment of key short-term trends

Indicator	Indicator trend	Indicator time period
Annual mean nitrate concentrations (groundwater)		2018–2023
Soluble Reactive Phosphorus (SRP) in rivers		2019–2024
Annual mean nitrate concentrations (rivers)		2019–2024
Number of pesticide drinking water samples at water treatment works final sampling points above the regulatory limit		2019–2024

2.4.3 Progress towards ambitions, targets and outcomes

We have assessed progress against the more limited EIP targets, while also noting that a wider range of drivers and pressures must be addressed to meet statutory targets under the WFD Regulations. As River Basin Management Plans and related programme of measures are key to improving water quantity and quality, progress regarding their implementation is central to our assessment. A summary assessment is provided in Table 2.4.2 with further detail below.

Whilst recognising the significance of the EIP commitment to the sustainable management and efficient use of natural resources, we are unable to assess progress towards it. This is because DAERA needs to define what is meant by sustainable management and efficient use in this context and establish appropriate indicators by which progress can be measured.

The third-cycle RBMP, published in June 2025, is the primary tool for improving the water environment in Northern Ireland.[104] The programme of measures contains 83 actions spanning agriculture, urban development, drinking water, chemicals and pesticides, abstraction, fisheries and morphology, non-native invasive species, forestry, waste and contaminated land, and a range of miscellaneous actions.

Overall progress towards achieving the targets and commitment in the EIP is limited. This is largely due to significant delays in implementation of the programme of measures in the RBMP. In addition, the measures proposed for some pressures including hydromorphology and contaminated land are limited. The scale and pace of effort does not match the urgency required to address the pressures on aquatic ecosystems.

The actions vary widely in both specificity and potential impact. Some are concrete and potentially high impact, such as the roll out of the Soil Nutrient Health Scheme. Others are vague and likely to have limited additional effect, for example, commitments simply to 'continue to implement the UK Forestry Standard'.

In 2024, we carried out a review of the implementation of the WFD Regulations in Northern Ireland.[105] The review found that DAERA's working target of bringing 70% of water bodies to good status by 2027 is imprecise and poorly defined. Also, the review identified the absence of clear environmental objectives for individual water bodies as a significant weakness. We found many RBMP measures to be generic, lacking clearly defined resourcing plans, and having unclear governance and delivery arrangements.

While the third-cycle RBMP includes all important drivers and pressures on water, it does not contain targets or measures for individual water bodies, relying instead largely on generic measures. Under the WFD Regulations, the programmes of measures in these plans are to be applied to achieve environmental objectives set at the water body level. Our view is that the current approach prevents meaningful analysis of how programmes of measures are expected to achieve environmental objectives at the water body level and may not be compliant with the WFD Regulations.

We welcome DAERA's economic analysis of the programme of measures, published alongside the third-cycle plan, as an important step towards implementing measures and achieving environmental objectives, as well as improving transparency and access to information for stakeholders. However, we note that many of the actions in the third-cycle plan lack secure funding. For NI Water owned actions, funding availability is uncertain; and some actions depend on successful external funding applications, i.e. PEACEPLUS Programme.[106]

Our assessment also highlights a lack of clear governance arrangements for implementing RBMPs and raises concerns that adequate mechanisms to ensure their delivery are not always in place. The third-cycle RBMP identifies delivery partners for each measure. However, we suggest that a clearer articulation of the remit of these partnerships, defined by their intended role and the added value they provide (beyond the actions or functions of public authorities or individual partnership members), should be made available. We also suggest that DAERA clarify the funding arrangements, accountability, and governance mechanisms for these partnerships to ensure they are aligned with their intended remit and role.

There are also transparency concerns, as it is difficult to find publicly available evidence demonstrating progress against many of the listed actions. Some positive progress has been made in addressing agricultural pollution, particularly through targeted, catchment-scale initiatives such as the Sustainable Catchment Programme. However, chronic underfunding and delays in implementation have resulted in slow delivery and constrained the scale of potential environmental improvement. This applies to agriculture and, to an even greater extent, wastewater infrastructure.

Nutrient management and agricultural pollution

Ongoing delays in reviewing the Nutrient Action Programme Regulations (Northern Ireland) 2019 (Nutrient Action Programme) are a serious concern. Our evaluation found that the current regulations do not go far enough to reduce phosphorus and nitrate losses from agriculture to water.[86] There is an urgent need for stricter controls on phosphorus and nitrogen surpluses on farms, especially regarding the use of animal feed concentrates.

The third-cycle RBMP includes a commitment to reduce phosphorus excretion from livestock by encouraging new feed technologies and improving feed efficiency. While the phosphorus content of animal feed has decreased in recent years, the total volume of feed used on farms has increased. As a result, there are still excessive phosphorus surpluses on many farms.[107] In addition, there has been little action to address the crude protein content of animal feeds, which is a major driver of nitrate, NH_3 and NO_x emissions.

In our report on the Nutrient Action Programme, we recommended that DAERA introduce further mandatory requirements for soil testing and ensure that all manure applications are strictly based on crop requirements. At present, farmers can still apply manures to land where there is no crop need, contributing to at least 40% of agricultural soils having phosphorus levels that pose a significant risk to water quality.

Through the Soil Nutrient Health Scheme, DAERA aims to test all fields on participating farms for soil nutrients and provide farmers with training in developing nutrient management plans. From January 2026, joining the scheme and completing the training will be a condition for receiving the new Farm Sustainability Payment.[78]

DAERA informed us that as of March 2026, 93% of farms have registered with the scheme, and 533,800 fields have been soil-tested. This represents a significant improvement in understanding the condition of agricultural soils. DAERA's success measure for the scheme is the percentage reduction in phosphorus fertiliser inputs. In year one, they achieved a reduction of 927 tonnes, which equates to a 10.6% reduction of the five-year average of phosphorus inputs. This is a positive step, and if these gains could be applied to manure application as well as fertilisers, they could translate into a positive environmental impact. Currently, farmers are not required to implement the nutrient management plans they produce as participants in the scheme. So, although the Soil Nutrient Health Scheme is reducing fertiliser inputs, it is unlikely to deliver a substantial reduction in nutrient loading until cost-effective solutions for manure export and treatment become widely available.

This has begun to be addressed through the development and roll out of the Sustainable Utilisation of Livestock Slurry programme, with a further consortium agreed recently (see Chapter 6).[108] However, it remains unclear whether this scheme can be scaled up quickly enough to address the nutrient surplus in the coming years. In the short to medium term, it is essential for DAERA to strengthen the Nutrient Action Programme Regulations to reduce pressure on water bodies.

In our Nutrient Action Programme report we have also identified problems with compliance: hundreds, if not thousands, of farmers are operating above the statutory limit of 170 kg nitrogen/hectare without an approved derogation. We have also stressed the importance of providing farmers with on-farm support for nutrient management, enabling them to make the best use of data generated by the Soil Nutrient Health Scheme.[86,94] Evidence shows that direct, on-farm support significantly improves nutrient management and reduces environmental risks.

Catchment based approaches

The Sustainable Catchment Programme has delivered measurable improvements in ecological condition in targeted sub-catchments and has received positive feedback from the 22 farm businesses supported to date.[109] Measures include riparian buffer creation, livestock exclusion from watercourses, provision of alternative drinking points, clean and dirty water separation, soil health interventions, and pollution prevention measures.

However, the Programme currently operates in only five prioritised sub-catchments, covering a very small proportion of agricultural land, with the APR 2026 stating a budget of £1.4 million of capital funding. A similar catchment-based approach to address pesticide impact on drinking water extraction from the Derg catchment demonstrates the benefits and cost-effectiveness of catchment-specific approaches to addressing water quality (Box 2.1).

The Executive commitment in the Programme for Government to protect Lough Neagh and the environment is welcome. To deliver on this commitment DAERA published the Lough Neagh Action Plan in July 2024.[110] The objective of the plan is to address the pressures causing the ecological crisis in the Lough. In total the plan includes 37 actions spread across four categories: education, investment, regulation and enforcement. Some of the proposed actions reflect existing commitments, and others, such as the development of a Lough Neagh Science Platform and commitment to commence a Small Business Research Initiative to investigate affordable solutions to reduce blue-green algal blooms, represent new actions that could improve the management of the lake. Promisingly, the actions have clear owners and timescales and there is transparency around costs. Funding insecurity remains an issue, which DAERA have mitigated where possible through scalable actions. We will carry out an assessment of progress on the Lough Neagh Action Plan in the coming year.

DAERA's main agri-environment support mechanism, the Farming with Nature package, has not yet been fully rolled out. To date, only the Farming with Nature Transition Scheme has been made available, which offers a limited list of measures for farmers to choose from. This is due to staff resource constraints and delays in business case development. In its first year, only 878 applications were received, significantly limiting its potential impact.

Box 2.1 Herbicide management in the Derg catchment

Overview

MCPA (2-methyl-4-chlorophenoxyacetic acid) is used primarily for controlling rushes (*Juncus* spp.) and broadleaf weeds and is one of the most widely used grassland herbicides in Northern Ireland.[111] Its widespread use in grassland agriculture is driven by the need to remove weeds that impact on silage quality and rush encroachment associated with wetter soils.

MCPA is highly water soluble and doesn't bind strongly to soil, meaning it is readily mobilised due to the high frequency of rainfall and poorly draining soils. Evidence from the Derg catchment indicates that improved grassland is the dominant source of MCPA inputs, and application timing combined with summer–autumn storm events drive the highest exceedance risk.[112,113]

Impacts in the aquatic environment

A fixed limit of a maximum of 0.1 µg/l applies to all individual pesticides under The Water Supply (Water Quality) Regulations (Northern Ireland) 2017.[114] There is also a 0.5 µg/l total limit for pesticides, which means the sum of the concentrations of the individual pesticides detected and quantified in the monitoring process must not exceed that threshold. These limits are precautionary policy standards rather than toxicologically derived thresholds. Exceedances can increase treatment costs for water utility operators. High-frequency monitoring in the Derg catchment revealed that approximately 25% of samples exceeded the 0.1 µg/l limit and around 87% of the annual MCPA load is delivered during storm events.[112]

Box 2.1 Herbicide management in the Derg catchment (cont.)

Concentrations detected in surface waters are well below acute and chronic toxicity thresholds for aquatic organisms. However, data on sub-lethal effects, and mixture toxicity are limited. As MCPA frequently co-occurs with other herbicides, uncertainties remain regarding longer-term ecological effects under realistic exposure scenarios.[115]

Mitigation

An agri-environment scheme was implemented in the Derg catchment between 2018 and 2021 with the aim of reducing MCPA losses from agriculture to water.[113,116] Measures included contractor-delivered weed wiping with glyphosate as an alternative to boom spraying MCPA, provision of pesticide storage and disposal facilities, and a programme of education and outreach to the local farming community.[113]

Following implementation of the agri-environment scheme extensive monitoring demonstrated reductions in concentrations in the river of up to 21% relative to a control catchment.[113] Monitoring after the scheme ended indicated that MCPA concentrations subsequently began to increase again, with many farmers reverting to MCPA use.[116]

Value for money

These findings demonstrate that agri-environment schemes can deliver measurable improvements in water quality, but that sustained investment is required to achieve long-term behavioural change. An economic analysis of MCPA mitigation in the Derg catchment found that catchment-based approaches can deliver significant cost savings by avoiding the need for more expensive water treatment infrastructure.[117] Projected over a 30-year period, the estimated cost of achieving MCPA compliance using traditional, capital-intensive approaches was £12.1 million, compared with £3.4 million for catchment-based measures.

Wastewater

It is of significant concern that wastewater has largely been omitted from the EIP. We have consistently stated that agriculture and wastewater both contribute to water quality issues in Northern Ireland, and that wastewater should be fully incorporated into the EIP to achieve intended outcomes for the water environment.

Our investigation into certain public authorities' compliance with environmental law governing sewage discharges into Belfast Lough was launched in November 2025.[118] The investigation focuses on the regulation of discharges of untreated sewage from wastewater treatment works and combined sewer overflows. The findings could have significant implications for wastewater management across Northern Ireland.

The third-cycle RBMP clearly identifies wastewater as a significant pressure in many catchments. The primary RBMP action proposed is the Living With Water Programme. However, the Living With Water Programme in Belfast has effectively stalled due to the lack of funding and has not delivered the proposed major infrastructure projects.[119] NI Water has progressed some investments, including £8.2 million and £8.7 million in base maintenance at Belfast Wastewater Treatment Works and a £6.7 million stormwater storage project at Glenmachan Upper Falls Wastewater Treatment Works.[120] These projects are largely

maintenance focused and are not being delivered at the pace or scale required to address existing pressures or prevent further deterioration.

The planned expansion of the Living With Water Programme to Derry/Londonderry is welcome, although it remains unclear how this will proceed given the potential high cost and the withdrawal of much of the funding for the Belfast programme.[121]

NI Water operates around 2,433 storm overflows. It has modelled around half of these storm overflows and assessed around 39% as unsatisfactory when applying NIEA criteria.[122,123] NI Water is also in the process of installing more event duration monitors across the wastewater network to provide evidence on storm overflows and to help target investment. Monitors are being installed according to priority, and as of November 2025, 329 monitors are operational, including coverage of 28 of the 33 designated bathing waters.[122]

In addition to storm overflows, sewage misconnections represent another pathway for untreated sewage to enter surface waters. The Department for Infrastructure is bringing forward legislation to enable the resolution of sewer misconnections in 2025/26, with the relevant Bill at Committee Stage as of February 2026.[124] NI Water has also introduced a pilot simplified planning process for sustainable drainage systems for single residential dwellings in Belfast.[125] While this should help reduce storm pressure on combined sewer systems, its overall impact is likely to be limited due to its narrow scope and focus on new developments only.

The RBMP includes two actions relating to private sewerage systems: reform of the application process and implementation of an agreed approach to enable NI Water's adoption of private sewerage infrastructure. This area offers important local water quality benefits, but progress is difficult to assess due to limited publicly available information.

Drinking water quality

Overall, drinking water quality is high. Two serious events occurred in September 2024 affecting the acceptability of water supplied from Castor Bay and Moyola Water Treatment Works, both of which abstract from Lough Neagh. Cyanobacterial (blue-green algae) blooms in the lough impacted the taste and odour of the mains water supply.[97]

NI Water, in its Price Control 2021 to 2027 business plan identifies that it will invest £337m to provide safe and clean drinking water during the period.[126]

Table 2.4.2 Water resources: quality and quantity – summary assessment of progress over the annual reporting period towards meeting targets and outcomes

Targets and outcomes	Progress
By 2027: 100% of waterbodies at Good Ecological Status (surface water) and Good Chemical Status (groundwater).	**Limited**
By 2031: achieve the sustainable management and efficient use of natural resources including water and soils.	**Not assessed**

2.4.4 Prospects of meeting ambitions, targets and outcomes

A summary assessment is provided in Table 2.4.3 with further detail below.

The prospects of achieving Good Ecological Status in all surface waters and Good Chemical Status across groundwater are largely off track. This is primarily due to delays in the implementation of RBMPs and revision of the Nutrients Action Programme, and chronic underfunding of wastewater systems. This assessment aligns with the findings in our WFD Regulations report[105] and with DAERA's response to our report where it indicated that limited investment and insufficient implementation of measures have hindered progress since the initial publication of first RBMPs.

A notable concern in our previous WFD Regulations report was the lack of water body level environmental objectives and specific actions to achieve them. Addressing these gaps is critical for the forthcoming fourth cycle RBMP, as a generic approach has proven ineffective and may not be legally compliant. Addressing these issues should also provide greater transparency and access to information for stakeholders and foster greater local engagement.

The relationship between catchment pressures and their impact on water bodies varies considerably depending on local characteristics. At present, there is no comprehensive assessment of how the programme of measures will deliver Good Ecological Status in each water body, making it difficult to evaluate progress towards WFD targets or identify additional actions needed.

Although the current Nutrient Action Programme does not fully address nutrient loss from agriculture, the agricultural sector has demonstrated a consistent commitment to dealing with nutrient issues. This is evidenced by incremental enhancements to regulatory requirements through the Nutrient Action Programme reviews, alongside investments in schemes such as the Soil Nutrient Health Scheme and the Sustainable Utilisation of Slurry Scheme. While further action is needed, the sector's engagement is clear.

Wastewater management remains a longstanding challenge. Despite government recognition of the issue, investment has not matched the scale or pace needed to improve water quality. The Northern Ireland Audit Office's report, Funding Water Infrastructure in Northern Ireland (March 2024), highlighted how historic underinvestment and a rigid funding model limit NI Water's capacity to plan and deliver improvements.[127] The absence of direct household charges and reliance on annual departmental allocations leave NI Water uncertain about its medium- and long-term funding, restricting its flexibility. For the price control period 2021–2027 only £2.1 billion was allocated, despite evidence that £3.1 billion was needed to address infrastructure deficiencies.

Additional unresolved issues include regulatory reforms committed to by DAERA, including the withdrawal from the Statement of Regulatory Principles and Intent (SORPI) framework, an administrative arrangement with NI Water established in 2007 which impacts upon regulatory enforcement action, as well as the overdue sensitive area review required under the Urban Waste Water Treatment Regulations (Northern Ireland) 2007.[128] DAERA has yet to complete this review, which has been outstanding since 2019.[129]

Research we commissioned to evaluate the wastewater system in Northern Ireland indicates that problems extend beyond urban wastewater treatment plants subject to the Urban Waste Water Treatment Regulations (Northern Ireland) 2007.[130] Septic tanks and

small package treatment plants dispersed across rural areas pose significant and ongoing risks to water quality, and current actions in the WFD Regulations programme of measures are limited to evidence gathering pilot studies and incremental improvements in approval processes. It is essential to implement more concrete steps to reduce nutrient losses from these systems to achieve EIP targets and outcomes.

Although drinking water standards in Northern Ireland remain high, the ongoing prevalence of algal blooms, particularly in Lough Neagh, which supplies 40% of drinking water, raises concerns about future drinking water quality. Recent customer reports of unpleasant taste and odour in tap water highlight the immediate impact of these blooms.[131] Current treatment processes are effective but continued vigilance is required to ensure future water supplies are not compromised. Failure to invest adequately in wastewater infrastructure now, or to mitigate nutrient losses from agriculture, may necessitate far greater expenditure on drinking water infrastructure in the years ahead.

Other pressures

Nutrient pollution is the main cause of failures to achieve Good Ecological Status and should be prioritised in the third-cycle RBMP. However, the third-cycle plan does not adequately address the full spectrum of pressures affecting water bodies nor does the EIP. Alongside nutrient pollution, persistent toxic substances (see Box 2.2), hydromorphological alterations, including changes to river flows, sediment transport, and habitats, are a major concern.

Hydromorphology encompasses not only the physical characteristics of rivers but also the drainage networks connecting land and water bodies, notably, arterial drainage schemes implemented extensively after 1945. Abstractions and in-channel works, such as dredging, straightening, and widening rivers, disrupt natural flows and habitats. The Significant Water Management Issues consultation report for the fourth-cycle RBMP identified hydromorphology as a pressure impacting 39% of water bodies and intercoastal basins.[132] Measures within the current third cycle RBMP to address these pressures remain high level, limited in number, and not linked to specific water bodies. We welcome the inclusion of Environmental Impact Assessments for future drainage work in the proposed Water, Sustainable Drainage and Flood Management Bill.[124] If included in the final legislation, it would enable DAERA to make regulations about the assessment of the likely effects on the environment of proposed works for the purpose of draining land or for preventing or mitigating flooding.

In-stream barriers affect river flows, habitat connectivity and fish movement, yet there has been little mitigation action in recent years. The Department for Infrastructure reported in September 2024 that no barriers or weirs had been removed in the past five years.[133] National policy currently inhibits barrier removal, with planning protections for historical weirs and limited data on their extent and location. In contrast, Ireland's National Barriers Mitigation Programme has identified over 73,000 potential barriers and is actively working to mitigate their impact.[134]

In summary, the prospects of achieving the target of Good Ecological Status in all surface waters and Good Chemical Status across groundwater is largely off track. While the focus has rightly been on addressing the issues of nutrient pollution from agriculture and wastewater, DAERA needs to also look beyond these pressures and make progress on addressing other key pressures such as hydromorphological alterations.

Box 2.2 Tackling toxic chemicals: contaminated land regime

Records from 1834 to the 1990s show approximately 14,000 sites have a previous or existing use that might result in land contamination. These range from engineering works and dockyards to mines, waste sites and landfills.[135] Estimates suggest the total area to be approximately 22,500 hectares.[136]

Examples such as the Mobuoy Road Waste Site have the potential to impact human health, ecosystems and protected habitats, groundwater and surface waters, including those used for public drinking water supplies.[137] Contaminants may range from heavy metals and hydrocarbons to gases and, in more recent sites, per- and polyfluoroalkyl substances (PFAS).

Part III of the Waste and Contaminated Land (Northern Ireland) Order 1997 sets out the legal provisions for introducing a contaminated land regime in Northern Ireland.[138] Unlike other devolved administrations where regimes are in force under Part IIA of the Environmental Protection Act 1990 (Part IIA), Part III of the Order was introduced in Northern Ireland, but not commenced.[139]

Part IIA provides a system for the proactive identification of potential contaminated land by local councils, supported by the Environment Agency, Scottish Environmental Protection Agency and Natural Resources Wales in the devolved administrations. It defines contaminated land as that which is causing (or there is a significant possibility of causing) significant harm to human health, ecosystems, the water environment and/or property by reason of substances in, on or under the land. It also provides a mechanism for the remediation of contaminated land by using the polluter pays principle.

While the majority of land contamination is addressed through the planning regime, it relies on developers bringing forward land for redevelopment so that contamination issues can be remediated. In planning, the landowner is generally responsible for any remediation, rather than the polluter.

Both the NI Audit Office and DAERA have identified the lack of a contaminated land regime as a legislative gap.[136,140] The potential benefits of commencing Part III of the Waste and Contaminated Land (Northern Ireland) Order 1997 include:

- Filling the legislative gap and giving regulators the opportunity to act on land that might not be remediated through the planning process.
- Understanding the risks posed to human health, the environment and property through an updated and comprehensive assessment of potential contaminated land.
- Implementing the newly published Environmental Principles Policy Statement and its polluter pays principle.[141]
- Providing a regulatory tool that encourages proactive remediation of land contamination risks and liabilities by landowners and polluters prior to any formal enforcement action being taken.
- Supporting the growth agenda, regeneration and implementation of the Land Use Framework.

Part IIA has just passed its 25th anniversary, and so DAERA has the opportunity to learn from other devolved administrations in implementing a contaminated land regime, including using the forthcoming State of Contaminated Land Report in England, to deliver an effective regime for Northern Ireland.

Table 2.4.3 Water resources: quality and quantity – summary assessment of prospects of meeting targets and outcomes

Targets and outcomes	Prospects
By 2027: 100% of waterbodies at Good Ecological Status (surface water) and Good Chemical Status (groundwater).	**Largely off track**
By 2031: achieve the sustainable management and efficient use of natural resources including water and soils.	**Not assessed**

2.4.5 Opportunities for improvement

Although DAERA is largely off track to achieve Good Ecological Status across surface water bodies, positive foundations have been laid on which further progress can build.

Significant work has been undertaken to tackle agricultural pollution, particularly nutrients. The Soil Nutrient Health Scheme offers both DAERA and the agri-food sector a substantial opportunity to enhance nutrient management practices on farms, thus alleviating pressure on water bodies. This scheme's impact will be greatly amplified if the uptake of training programmes and the development and implementation of nutrient management plans match the impressive participation rates seen so far.

While nutrient management plans will inevitably highlight that some farms have excessive nutrients, the Sustainable Utilisation of Livestock Slurry scheme provides a viable pathway to address this issue, provided it is scaled up promptly. To realise the schemes full potential, NI Executive departments must make every effort to remove barriers hindering the development of the circular bioeconomy. However, it is essential to advise caution; robust governance structures must accompany investments in capital and logistics so that the scheme does not lead to unintended environmental consequences.

Delays in revising the Nutrients Action Programme are regrettable. Nevertheless, there is now an opportunity to introduce revised regulations that command broad stakeholder support. While it is essential that the revised regulation implements the necessary changes to sufficiently reduce nutrient losses from agriculture, stakeholder engagement is also critical to ensure measures are adopted at pace and scale, thereby maximising impact.

We have responded to DAERA's consultation on the Nutrients Action Programme, and restate our advice.[142] The revised Programme should clearly set out targets (what is to be achieved and by when) and actions (how delivery will be achieved and who is responsible). The Programme should demonstrate explicitly how individual measures contribute to, and collectively stack up to deliver, policy objectives. This would facilitate assessment of progress, support adaptive management, enhance transparency, and promote accountability for delivery.

Investment in on-farm support has been shown to significantly improve nutrient planning and reduce the risk of nutrient losses to water.[109] Although funding constraints may limit the reach of such support, the government is encouraged to further expand the Sustainable Catchment Programme and extend it to include nutrient management advice that makes use of data generated through the Soil Nutrient Health Scheme.

Wider sources of nutrient pollution must also be addressed, including public and private wastewater systems to ensure EIP outcomes are achieved. While urgent investment

in wastewater infrastructure is required, the Water, Sustainable Drainage and Flood Management Bill, currently progressing through scrutiny stages, represents a positive step if fully implemented.[124] The legislation would enable investment in sustainable drainage systems, reducing the inflow of water from new developments into the sewage system. Such measures would also align with requirements in the Climate Change Act (Northern Ireland) 2022 to support nature-based solutions for climate change mitigation and adaptation.

Findings from our commissioned work on the wastewater system have highlighted the risks posed to water quality by septic tanks and small wastewater treatment plants.[143] More than 110,000 properties (around 20% of the total) in Northern Ireland are not connected to the public sewerage network and are instead served by over 100,000 privately operated septic tanks or small package treatment works.[144] While these systems may contribute a smaller overall nutrient load than urban waste water treatment plants and agriculture, their relative impact can be greater because discharges are not restricted to highflow periods.[89]

Septic tank systems must be properly designed, installed and regularly maintained to function effectively. They require a discharge consent from the Northern Ireland Environment Agency (NIEA) to ensure that discharges do not pollute or pose risks to public health. However, there is no indication that NIEA routinely inspects these systems. In the Republic of Ireland, local authorities completed 1,390 septic tank inspections in 2024, with 56% of systems failing.[145] Compliance rates in Northern Ireland are likely to be similar, with potentially detrimental impacts on the environment. NI Water estimates that around 10,000 septic tanks are located around the perimeter of Lough Neagh.[146]

There are numerous low-cost, low-carbon, nature-based solutions capable of addressing pollution from these systems, presenting a significant opportunity for improvement. In this context, the recent announcement of the WEST PEACEPLUS-funded project is welcomed.[147] The project commits to developing a sustainable treatment strategy and action plan to address wastewater-related pressures in rural areas across the Lough Erne, Melvin and Donegal Bay priority catchments, including measures such as constructed wetlands, short rotational coppice willow plantations, and lagoons.

Effectively tackling excess nutrient pollution will deliver benefits beyond freshwaters, including improvements to coastal and marine environments. These include reductions in harmful algal blooms, improved bathing water quality, and progress towards achieving Good Environmental Status (GES) in the marine environment. Key to addressing this is embedding the source-to-sea approach throughout all actions to tackle nutrient pollution.

Finally, while the focus to date has rightly been on nutrient pollution from agriculture and wastewater, achieving the WFD Regulations objective of Good Status across all water bodies, incorporating both ecological and chemical elements, will require DAERA to address additional key pressures. These include hydromorphological alterations and chemical pollutants. Valuable work has already been undertaken at a catchment scale through the Sustainable Catchment Programme. Work in the Derg catchment to address MCPA contamination in drinking water provides an example of the effectiveness of this approach. Expanding the Sustainable Catchment Programme to additional catchments would deliver multiple benefits, including improved environmental outcomes, enhanced drinking water quality, reduced financial burdens, and public health benefits. Ensuring that all major pressures on the water environment are adequately addressed will remain a key focus of our future assessments of progress.

Recommendations for water resources: quality and quantity

Recommendation 1: DAERA should ensure that actions address all major pressures on the aquatic environment, in particular pollution from the wastewater system ranging from septic tanks up to large urban treatment plants to ensure EIP outcomes are achieved.

Recommendation 2: DAERA should work with the Department for Infrastructure to prioritise tackling unsustainable nutrient inputs into freshwater and coastal habitats, originating from both agriculture and wastewater. The necessary reductions from each source should be clearly established, with effective delivery achieved through the Nutrient Action Programme and upgrades to the wastewater treatment system.

Table 2.4.4 Water resources: quality and quantity – summary assessment

Past trends	Progress in reducing nitrate and phosphorus concentration in lake and rivers has stalled and remains above the levels required to achieve Good Ecological Status. However, exceedances related to pesticide in drinking water remain low. While the number of pollution incidents in water has decreased over the long-term, it has increased in recent years.	**Trends show a mixed picture**
Progress in the reporting period	While nutrient inputs from agriculture are receiving attention, the contribution from other sources such as sewer overflows and sewage treatment, including private septic tanks and package wastewater treatment systems, is not being addressed. There is a lack of actions to address other pressures such as wider pollution sources and hydromorphological alterations.	**Limited**
Overall prospects of meeting ambitions, targets and outcomes	The scale and pace of delivery of actions is not in line with the objective to achieve Good Ecological Status in surface water by 2027. This is largely due to delays in addressing nutrients from agriculture and wastewater. However, the inevitable lag between reducing pressures and subsequent environmental improvement suggests this target will not be achieved for many years.	**Largely off track**
Robustness	The assessment has primarily used publicly available monitoring data and evidence along with expert judgement. It has also been informed by our current, ongoing scrutiny of the implementation of the WFD Regulations.	

2.5 Marine and coastal resources: quality and quantity

2.5.1 Context and commitments

The marine and coastal waters around Northern Ireland are home to a diverse range of unique and internationally important species and habitats. These ecosystems also play a crucial role in sustaining the health and wellbeing of coastal communities, providing vital resources and economic opportunities for those whose livelihoods are intrinsically linked to the sea. Additionally, recreational pursuits, tourism, commercial fishing, and aquaculture are all dependent on the health and integrity of the marine environment.

The overarching target for achieving healthy seas is the achievement of Good Environmental Status (GES) as defined by the Marine Strategy Regulations 2010.[148] It is further supported by the WFD requirement to achieve good status (both ecological and chemical) in transitional and coastal waters (out to 1 nautical mile from baseline). The UK Marine Strategy aimed to deliver Good Environmental Status for UK seas by 31 December

2020 and is described for UK waters through 11 descriptors and assessed using a combination of 15 descriptors and ecosystem components (see Box 2.3).

Good quality marine water is increasingly important to human health. Ensuring that marine and coastal waters are of sufficient quality is vital, particularly for recreational activities such open water swimming and bathing, and in providing high quality commercial food production, such as shellfish aquaculture. The EIP acknowledges the impact from sewage discharges and nutrients from agriculture practises on the quality and quantity of marine and coastal resources. Reducing the impact from these sources is critical to the delivery of a range of environmental commitments and outcomes across the EIP.

Under the WFD Regulations, DAERA has the power to designate shellfish water protected areas (SWPAs).[88] The WFD Regulations contain additional environmental objectives for protected areas, including SWPAs. The objectives for SWPAs are 'such objectives as are necessary or desirable to improve or protect the shellfish water protected area in order to support shellfish life and growth and to contribute to the high quality of shellfish products suitable for human consumption as the Department may determine'. High-quality shellfish production depends on good water quality and water quality in SWPAs can be reduced by pollution from various sources, such as run off from agricultural land or discharges from sewage treatment works.

The Quality of Bathing Water Regulations (Northern Ireland) 2008 and the WFD Regulations are both assimilated law (law formally transposing EU legislation).[149,88] The Quality of Bathing Water Regulations (Northern Ireland) 2008 were originally made to transpose the EU Bathing Water Directive.[150] The primary purpose of this Directive is 'to preserve, protect and improve the environment and protect human health'. We have reported on the implementation of both sets of regulations in separate reports.[105,151]

A significant proportion of the pressures affecting the health and integrity of marine and coastal environments stem from activities and processes that begin on land. This is recognised in the EIP which acknowledges the value of taking a comprehensive source-to-sea approach. By considering the entire journey of water and pollutants from their point of origin inland to their eventual arrival in coastal and marine areas, a source-to-sea framework should aim to ensure that interventions are targeted effectively across the entire catchment. This holistic approach seeks to better safeguard marine resources by addressing pressures at their source, ultimately supporting the long-term resilience and sustainability of both terrestrial and marine environments.

Box 2.3 Good Environmental Status of marine waters under the Marine Strategy Regulations 2010.

GES of marine waters is defined under the Marine Strategy Regulations 2010 by reference to 11 descriptors.[148] Achievement of GES in UK marine waters is assessed against 15 descriptors and ecosystem components at two regional levels: Greater North Sea, and Celtic Seas.

The UK Marine Strategy is formed of three component parts: Part 1 is an assessment of UK waters against GES, Part 2 provides a monitoring programme, and Part 3 provides a programme of measures. These are required to be updated on a 6 yearly cyclical basis.

The most recent update to Part 1, published in April 2026 demonstrated that 13 of 15 descriptors and ecosystem components do not meet GES (two achieved, three partially achieved, seven not achieved with three uncertain).[152] This represents a decline from 11 of 15 not met in the 2018 assessment (four achieved, five partially achieved and six not achieved).[153] Crucially, the specific contribution of Northern Ireland's progress towards GES in UK marine waters is not currently represented in Part 1 and therefore cannot be assessed.

The EIP lists several actions that relate to the achievement of GES descriptors and ecosystem components. We address these within Chapter 2 (eutrophication, contaminants, marine litter and underwater noise), Chapter 4 (biodiversity, food webs, and invasive species), and Chapter 5 (commercial fish and hydrographical condition).

We are currently investigating a suspected failure by the Secretary of State to take the necessary measures to achieve or maintain GES of UK marine waters by 31 December 2020.[154] The investigation focusses on the failure to achieve GES in the relevant period, the ongoing duty to achieve GES as soon as possible, the way in which government has sought to claim exceptions, and a suspected failure to publish a lawful programme of measures.

2.5.2 Key environmental trends

We provide an assessment of key trends to describe and reflect the quality and quantity of marine and coastal resources. A summary assessment is provided in Table 2.5.1 with further detail below.

At a UK level, the most recent evaluation of GES in 2026 indicates that, of the 15 ecological components used to assess progress, seven are classified as not met, three as partially met, three as GES uncertain, and two are GES met.[152] This represents a decline from the 2018 assessment, where four ecological components were assessed as GES achieved, five as GES partially achieved, and six as GES not achieved.[153] The overall trend points to a movement away from GES, which is notable given the UK Marine Strategy target to achieve GES by 31 December 2020 has already passed.[153]

Between 2019 and 2024, dissolved inorganic nitrogen enrichment in 25 water bodies increased significantly, from 31% to 62%, indicating increased nutrient input into transitional and coastal waters. The APR 2026 notes that the main sources of this increased nutrient load are agricultural activities and urban sewage discharges. This is supported by a concurrent increase in the number of sites showing increasing levels of nitrate in freshwaters (see Section 2.4.2).

Under the Quality of Bathing Water (Amendment) Regulations (Northern Ireland) 2025, the number of identified bathing waters in Northern Ireland was expanded to include seven new bathing waters, including one inland bathing water, Rea's Wood, on Lough Neagh.[155] Of the 33 identified bathing waters in Northern Ireland, in November 2025 it was reported that 24 met the excellent standards, five met good standards, three were sufficient and one failed to meet the minimum standard. This one site, classified as poor, was the newly identified inland bathing water at Rea's Wood, Lough Neagh which was negatively impacted by blue-green algae blooms. All coastal bathing water sites were classified as sufficient or better (100%), with three sites moving up a classification, one to excellent and two to good during the reporting period.[156] The addition of a single poor bathing water status assessment has influenced this trend negatively to reflect a deteriorating, decreasing trend on previous years despite other bathing waters improving, in some instances, beyond sufficient status.

Marine litter remains a significant global concern.[157] In Northern Ireland, its status is tracked through the Live Here Love Here (formerly Keep Northern Ireland Beautiful) Marine Survey and annual Marine Litter Reports.[158] The Marine Litter Report 2025 reported an average of 500 litter items collected per 100 metres of beach surveyed. However, the OSPAR threshold for marine litter is set at 20 items per 100 m, so levels of marine litter remain too high.[159] In addition, there has been a noted rise in the quantity of smaller plastic fragments observed, which is considered to be attributed to the degradation of larger plastic items.[158]

Transitional and Coastal Water Classification statistics aim to quantify and assess the overall status of Northern Ireland's 25 transitional and coastal waters under the WFD Regulations, using a combination of both ecological and chemical parameters.[88] Between 2018 and 2024, there has been no change in ecological status. No transitional or coastal water bodies achieved high ecological status and only 10 (40%) achieved good ecological status. Chemical status, including uPBT substances and cypermethrin failures, shows that all 25 (100%) of transitional and coastal water bodies failed to achieve good chemical status in 2021 and 2024. No chemical data are recorded for 2018. Overall surface water status for transitional and coastal waters is determined by combining both ecological and chemical status. In 2018, 40% of water bodies were at good status, but this declined to 100% at less than good status in 2021 and 2024 when new analyses for uPBTs were included in the chemical classifications.

Table 2.5.1 Marine and coastal resources: quality and quantity – summary assessment of key short-term trends

Indicator	Indicator trend	Indicator time period
Dissolved Inorganic Nitrogen (DIN) Enrichment	↑	2019–2024
Bathing water data (*Escherichia coli* & Intestinal Enterococci levels)	↓	2018–2023
Marine Litter (recorded using OSPAR methodology to show changes in volume and types of litter present)	↑	2019–2025
Transitional & Coastal Water Classification Statistics	→	2021–2024

2.5.3 Progress towards ambitions, targets and outcomes

Overall progress in the annual reporting period towards achieving EIP targets and outcomes was limited. A summary assessment is provided in Table 2.5.2 with further detail below.

Assessing Northern Ireland's contribution and progress towards GES, as reported though the UK Marine Strategy at a UK level, remains challenging. The publication of the UK Marine Strategy programme of measures in January 2026 shows some progress in policy development. However, it is our view that the updated UK Marine Strategy Part Three does not reflect the fully evidenced, resourced and time-bound delivery plan needed to achieve GES as soon as possible.[160] The APR 2026 reports that the development of a NI Marine Strategy to achieve GES in local seas, aligning with the UK Marine Strategy and regional approaches is progressing. Progress on the development of an Underwater Noise Action Plan and planned catchment modelling are positive developments. However, within the context of the wider missed commitment to meet UK GES by 2020, and a recent movement away from achieving GES for several descriptors and ecosystem components, there is a wider lack of progress towards the achievement of GES. The specific contribution of Northern Ireland's progress towards the overall UK GES is not currently represented in Part 1.

The APR 2026 acknowledges the impact from sewage discharges and agriculture on marine and coastal areas. Progress towards reducing this impact has been limited, with ongoing challenges in enhancing wastewater treatment and sewage infrastructure remaining a significant barrier. Additionally, progress in addressing the impacts from agriculture remain significant (see Chapter 5).

The EIP committed to implementing action plans for SWPAs and to review plans for any sites failing to meet their objectives by 2025. The APR 2026 acknowledges that progress has been hampered by insufficient funding for larger, strategic improvements to water quality, such as upgrading sewage infrastructure. As a result, no progress has been made on reviewing the action plans during the reporting period and the APR 2026 reports this action as proceeding to a new timeline.

There have been improvements in bathing water quality and quantity during the reporting period through improvements in the status of a number of coastal bathing waters and the review and publication of the Quality of Bathing Water (Amendment) Regulations (Northern Ireland) 2025.[155] This amendment has expanded the number of bathing waters from 26 to 33 in total. The Bathing Water Quality Dashboard, released in June 2025, provides information on weekly sampling results. Our review of the implementation of the Quality of Bathing Water Regulations (Northern Ireland) 2008 highlighted that Northern Ireland was among the lowest achievers in Europe in terms of the number of bathing water sites assessed as excellent.[161] However, the review acknowledged that the regulatory regime was being implemented effectively in terms of compliance with monitoring, classification and reporting obligations in the Bathing Waters NI Regulations.

The Marine Plan for Northern Ireland is a key delivery mechanism for managing Northern Ireland's seas across many key areas. Regarding marine litter, the Marine Plan aims to appropriately consider and adequately mitigate the risk of litter entering the marine environment as a result of future development proposals. The Marine Plan is intended to provide a public authority with guidance on how to adequately assess and minimise such risk. The Marine Plan for Northern Ireland remains in draft form and is unpublished but must be noted as a material consideration in future planning decisions (see Chapter 5).[162]

Table 2.5.2 Marine and coastal resources: quality and quantity – summary assessment of progress over the annual reporting period towards meeting targets and outcomes

Targets and outcomes	Progress
Achievement of Good Environmental Status of Northern Ireland seas and a thriving blue economy.	Limited
By 2030, to have protected Bathing Waters and Sensitive Areas including Shellfish Water Protected Areas (SWPAs) from storm sewage discharges and reduce impact of agriculture on such areas.	Limited
By 2030: Manage all Shellfish Water Protected Areas (SWPAs) to ensure that they meet their ecological and chemical objectives under the Water Environment Regulations 2017 and meet at least Class B under the EU Hygiene Regulations.	Limited
By 2030: Maintain at least Sufficient status for all Bathing Waters, with 70% achieving Good or Excellent status throughout the bathing season.	Good

2.5.4 Prospects of meeting ambitions, targets and outcomes

Overall prospects of meeting EIP targets and outcomes are largely off track. A summary assessment is provided in Table 2.5.3 with further detail below.

The UK government is currently not achieving GES for its marine areas.[153] While there is uncertainty regarding whether Northern Ireland's seas are meeting GES objectives regionally, the ongoing risk of failing to do so poses considerable economic and environmental harm. This potential shortfall also threatens the achievement of broader targets and commitments.

There are ten SWPAs in Northern Ireland.[163] SWPAs must be managed to ensure that they meet Good Ecological Status and Good Chemical Status under the WFD Regulations, as well as the protected areas objectives that DAERA has set for SWPAs. The prospects of the ten SWPAs achieving the 2030 target of meeting their ecological and chemical objectives under the Water Environment Regulations 2017 and meet at least Class B under the EU Hygiene Regulations are dependent on thorough review, prioritisation, and effective implementation of the Shellfish Action Plans (SAPs).[88,164] Protecting SWPAs from the pressures such as sewage discharges caused by storms and agricultural pollution by 2030 will require significant future investment in improving sewage systems, alongside the effective implementation of measures to reduce nutrient inputs into the environment under the revised Nutrient Action Programme and Sustainable Agriculture Programme.[165,166]

The reviewed SAPs remain delayed and are expected to be published in 2026. DAERA informs us that those prioritised plans that fail to meet their objectives will be incorporated into the Fourth RBMP consultation (scheduled for December 2026 to June 2027), so prompt and significant cross-departmental action will be required if the plans are to be implemented in time to meet the targets set for 2030.[167] In addition to reviewing SAPs, DAERA intends to review and identify additional Sensitive Areas under Annex II A(c) of the Urban Waste Water Treatment Regulations (Northern Ireland) 2007, which could help deliver enhanced treatment for wastewater discharges impacting on aquaculture areas.[168] Alongside the measures outlined in the EIP and APR 2026, these establish a positive pathway and framework for delivery, but due to the challenges of improving wastewater

infrastructure and reducing agricultural pollution, the prospects of delivering effective implementation and meeting targets in time for 2030 in SWPAs remain largely off track.

The prospects of meeting the bathing water target are largely on track, as significant progress has been made during the reporting period that will improve the likelihood of 70% of bathing waters achieving and maintaining good or excellent status throughout the bathing season by 2030. The APR 2026 acknowledges the impact of the inland site at Rea's Wood in Lough Neagh being classed as poor status on overall bathing water performance. In addition, this status is due to the presence of blue-green algae blooms that have the potential to move downstream and impact water quality in the marine area. As a result the prospects of coastal bathing sites adjacent to the Neagh Bann catchment such as the Blue Flag beaches of Castlerock, Portstewart and Portrush maintaining sufficient status or better depend, in part, on improvements in water quality upstream.

Our report on the wider implementation of the Quality of Bathing Waters Regulations (Northern Ireland) 2008 published in November 2024, sets out 11 recommendations for the implementation of the regulations, their design and their coherence with related law and policy.[151] There is room for improvement in a number of areas to ensure the regulations better align with the requirements of today's water user – in particular, amending the definition of bather to include a wider range of sea users, expanding the bathing water season to better match bathing water usage, and improving on the provision of short-term pollution risk forecasting. Implementing these recommendations in full, alongside identifying and addressing all relevant sources of pollution, including from wastewater and agriculture sources, would help improve the prospects of meeting and maintaining bathing water targets and commitments in this area.

The prospects of effectively mitigating against new plastic sources entering the marine environment from future development are hampered by a delay in progress towards implementing a comprehensive Litter Strategy for Northern Ireland (see Chapter 6). In addition, available data on marine litter provide only a partial picture of the problem as they capture beach litter and not floating plastic or plastic accumulating on the seabed.[158] These significant data gaps, combined with a lack of strategic direction due to the absence of the Northern Ireland Marine Plan and a deprioritised Litter Strategy, significantly undermine the likelihood of achieving the GES targets for marine litter.

Table 2.5.3 Marine and coastal resources: quality and quantity – summary assessment of prospects of meeting targets and outcomes

Targets and outcomes	Prospects
Achievement of Good Environmental Status of Northern Ireland seas and a thriving blue economy.	**Largely off track**
By 2030, to have protected Bathing Waters and Sensitive Areas including Shellfish Water Protected Areas (SWPAs) from storm sewage discharges and reduce impact of agriculture on such areas.	**Largely off track**
By 2030: Manage all Shellfish Water Protected Areas (SWPAs) to ensure that they meet their ecological and chemical objectives under the Water Environment Regulations 2017 and meet at least Class B under the EU Hygiene Regulations.	**Largely off track**
By 2030: Maintain at least Sufficient status for all Bathing Waters, with 70% achieving Good or Excellent status throughout the bathing season.	**Largely on track**

2.5.5 Opportunities for improvement

There are clear opportunities to improve the quality and quantity of marine and coastal resources. These opportunities are most significant in the wider achievement of GES, supported by improved and maintained water quality for bathing waters and shellfish harvesting and adopting a source-to-sea approach to tackle pressures on the marine environment at source.

Achieving GES is a fundamental opportunity to enhance the overall health and sustainability of the marine environment. By seeking to better understand and characterise Northern Ireland's specific contribution to UK GES, the EIP may provide for effective assessment of progress towards, and the prospects of meeting, GES and wider marine targets.

Conducting a thorough review of SAPs will identify priority areas and targeted management to meet ecological and chemical standards as set out by the WFD Regulations and EU Hygiene Regulations. Additionally, delivering an outstanding review under the Urban Waste Water Treatment Regulations (Northern Ireland) 2007 in order to identify new Sensitive Areas would also help to strengthen the enforcement and regulation of water pollution affecting SWPAs.[128] This process would help to identify gaps, prioritise actions, and facilitate the safe and sustainable harvesting of shellfish, which is important for local economies and for delivering and maintaining food safety.

The regulation of bathing waters is currently effective and is delivering towards EIP targets. However, implementing our recommendations on bathing water regulations would help sustain this momentum and improve delivery in specific areas. Addressing water quality issues in Lough Neagh associated with blue-green algae would help mitigate against the downstream presence of cyanobacteria in bathing water sites and on Blue Flag beaches such as those in the North Coast region that are adjacent to the River Bann. Additionally, bathing and water-based recreation also occurs at other locations that are not designated bathing water sites, including freshwater inland sites. Improving water quality in these areas and identifying new sites for bathing water designation where appropriate, including for inland sites, is also important and contributes to the achievement of other EIP commitments including improving access to natural spaces (see Chapter 3).

The publication of the Marine Plan for Northern Ireland will provide a strategic framework for balancing environmental protection with economic development. Once published, it will help guide sustainable use of marine resources, support conservation efforts, and inform decision making across sectors such as fisheries, tourism, and future infrastructure.

Many of the pressures impacting the marine and coastal environment stem from the land, such as agricultural runoff, urban wastewater, and industrial pollution. Adopting and implementing a comprehensive source-to-sea approach is crucial for improving the likelihood of meeting key commitments. An effective source-to-sea approach will require cross-departmental coordination and coordinated governance to deliver the pace required to affect meaningful change. If it is realised, it may help to significantly improve water quality, reduce risks to both bathing and shellfish waters, and enhance the resilience of marine ecosystems.

Collectively, these opportunities represent a pathway towards healthier marine and coastal environments, improved water quality and quantity, and sustainable economic activity. Strategic actions across these areas can help address current challenges and unlock long-term benefits for public health, coastal communities, and the marine environment.

Recommendations for marine and coastal resources: quality and quantity

Our report on the implementation of the Quality of Bathing Water Regulations (Northern Ireland) 2008 made 11 recommendations towards addressing issues in the implementation of the regulations, their design and their coherence with related law and policy. These recommendations still stand.[151]

Recommendation 1: DAERA should deliver the delayed review of Shellfish Water Protected Areas Action Plans to identify and address priority pressures to improve water quality and quantity in marine and coastal areas.

Recommendation 2: DAERA should work across NI Executive Departments to deliver a strategic source-to-sea approach to effectively address the relevant pressures on marine and coastal water resources at source.

Table 2.5.4 Marine and coastal resources: quality and quantity – summary assessment

Past trends	Pressures on the marine environment such as marine litter remain high and nutrient inputs from agricultural and sewage has increased in transitional and coastal waters. The general status of bathing waters is good and continues to improve. The ecological status for 25 transitional and coastal sites is unchanged with only 40% of sites achieving good status but, with the inclusion of chemical status, 100% of sites are classified as less than good.	**Deteriorating trends dominate**
Progress in the reporting period	There has been limited progress towards the achievement of Good Environmental Status. There has been progress on the Underwater Noise Reduction plan and planned catchment modelling but not on Shellfish Action Plans. Existing bathing water regulations are being implemented well. Levels of marine litter remain too high and the deprioritisation of the proposed NI Litter Strategy and lack of a published Marine Plan for Northern Ireland indicate slowing progress.	**Limited**
Overall prospects of meeting ambitions, targets and outcomes	UK Good Environmental Status remains off track and the previous target of meeting Good Environmental Status by December 2020 has been missed. Meeting Shellfish Water Protected Areas commitments will require immediate review and delivery of Shellfish Water Action Plans. Implementing the OEP's bathing water recommendations would support the prospects of maintaining bathing water status. Publishing the Northern Ireland Marine Plan would contribute towards meeting Good Environmental Status for marine litter.	**Largely off Track**
Robustness	Northern Ireland's contribution to the UK Marine Strategy achievement of Good Environmental Status is unclear. The absence of reviewed Shellfish Water Protected Area Action Plans mean it is unclear which areas are failing to meet the objectives of reducing pollution in designated shellfish waters. The assessment has primarily used publicly available monitoring data and evidence along with expert judgement.	

2.6 Conclusions

Environmental quality in Northern Ireland remains poor, with substantial improvement required to meet the EIP targets and outcomes. Improvements in bathing water, drinking water, and many air quality parameters are positive. However, these gains must be sustained through ongoing review and updating of standards, such as aligning air quality targets with the latest WHO recommendations.

Despite ambitious plans, persistent delays in developing and implementing key actions have undermined credibility and slowed progress. Strategies such as the Clean Air Strategy, Marine Plan, and Ammonia Strategy show intent to address major pressures, as do DAERA investments in the Soil Nutrient Health scheme and Sustainable Utilisation of Livestock Slurry scheme. However, action to address other key issues such as land quality, hydromorphology, ecological flows, contaminated land, and chemical pollution are inadequate or omitted. In addition, the lack of substantive actions to address wastewater is concerning, given its major impact on freshwater and marine environments.

SEO 1 aims to deliver excellent air, water and land quality, but lacks actions to address land quality, apart from the Soil Nutrient Health scheme for agricultural soils. While the Soil Nutrient Health scheme addresses soil nutrient and carbon, other critical aspects of soil health are not addressed within the EIP, for example, soil compaction and drainage. Both play important roles in soil functions such as water retention and carbon sequestration, while addressing land drainage is a key step in restoring peat soils.

Land quality also encompasses contamination, which includes soils contaminated through the application of organic materials and land contamination. Contaminated land results from historical industrial, mining, and landfill sites, posing significant risks to local environmental quality and human health however, it has not been addressed in the EIP (see Box 2.2).

The APR 2026 highlights that, in addition to soil health and contamination, cleanliness of local environments is an essential aspect of land quality. However, the EIP has a narrow focus on local environmental quality, primarily litter (see Chapter 6) and to some extent on air quality through the Local Air Quality Plans.

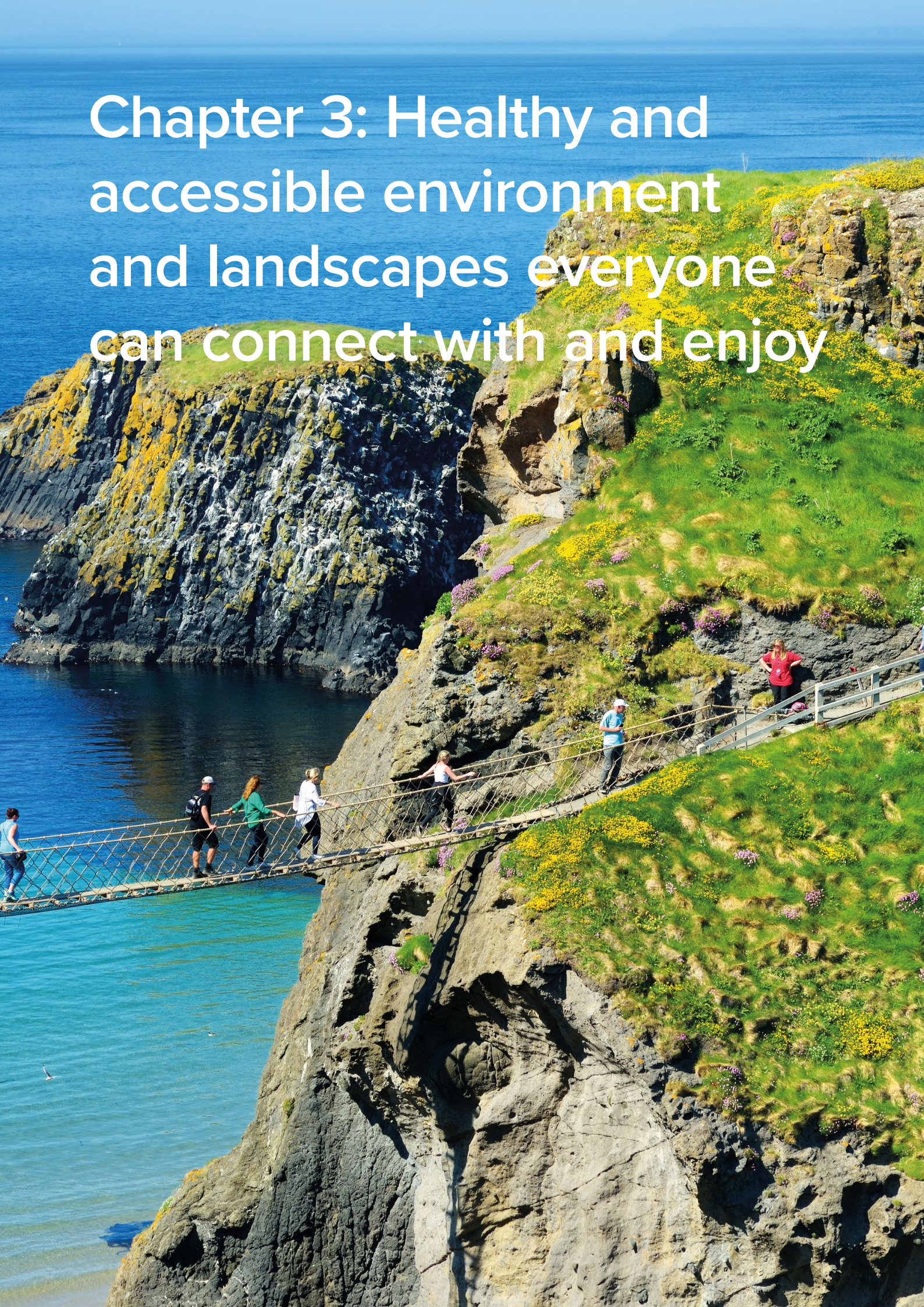
People experience and interact with the environment within their local area through the quality of the air they breathe, the water they drink, the bathing waters they swim in, and the lakes and rivers they fish or boat on. There is a need for the EIP to address the issue of local environmental quality more comprehensively and integrate actions with access to quality green spaces (see Chapter 3). There are clear opportunities to do this by building on and integrating the AirAware App, Bathing Water Quality Dashboard, Catchment Data Map Viewer, thereby increasing public awareness and their opportunity to act on environmental quality in their local area.

The commitment to adopt a source-to-sea approach is a positive development and the focus should be extended to include air, alongside freshwater, coastal, and marine environments. A more comprehensive and integrated management approach would more effectively addresses the interconnected pressures on environmental quality, such as those posed by nutrients. Nutrient pollution is a persistent problem which needs urgent action, yet little progress has been made.

Actions addressing nutrient pollution are often implemented broadly at the national level, overlooking the necessity for targeted measures in specific locations. For instance, the RBMP lacks objectives and actions tailored to individual water bodies. In contrast, the draft Ammonia Strategy proposes both national and local approaches, which will be vital for delivering the reduction in ammonia emission required by 2023.

Continued investment in this source-to-sea approach will maximise the benefits of investments like the Soil Nutrient Health scheme and Sustainable Utilisation of Livestock Slurry scheme for addressing nutrient pollution. However, these investments must be matched by investments in upgrades to the wastewater treatment system if the EIP ambition of improved environmental quality is to be achieved.

Chapter 3: Healthy and accessible environment and landscapes everyone can connect with and enjoy



Chapter 3: Healthy and accessible environment and landscapes everyone can connect with and enjoy

3.1 Summary assessment

Northern Ireland's landscapes, seascapes, and outdoor spaces are integral to its identity and provide significant benefits for people and nature. Yet the region is among the most nature-depleted globally and levels of people's connection to the natural environment are low. Addressing this is critical to achieving the Environmental Improvement Plan's aim of ensuring that everyone can benefit from a healthy, inclusive and accessible environment.

Recent actions to strengthen the evidence base regarding the provision, quality and accessibility of green spaces are positive steps. Nonetheless, significant evidence gaps remain, particularly in relation to wider landscape and seascape quality and children's engagement with nature. Since 2023 the share of households within 400 metres of greenspace or an off-road trail has remained relatively stable (marginal decrease of 0.1%) and inequalities in access remain. Green Flag sites have grown in number since 2021, but adult engagement with the environment has declined marginally since 2023.

A range of projects and programmes have been delivered, many in partnership with environmental Non-Governmental Organisations (eNGOs). However, legislative and policy reviews and the development of key strategies have not progressed. This is largely due to competing priorities and insufficient resources. A lack of strategic prioritisation and policy guidance limits effective coordination on the ground. This makes it difficult to prioritise interventions and ensure alignment of efforts. Priority actions are not being advanced with sufficient urgency, and delivery needs to be scaled up significantly. At the same time, pressures on landscapes and on access to urban green and blue spaces continue to intensify.

Opportunities for improvement include reforming the legal and policy framework for landscapes, addressing evidence gaps, ensuring new spatial datasets are integrated into local and regional development plans, developing the key strategies and taking steps to integrate outdoor learning into the curriculum. More effective mobilisation and sustained support for Non-Governmental Organisations (NGOs) and other delivery partners is also essential to achieving broader public engagement with the natural environment and with the processes and interventions to improve it. This requires stronger cross-government cooperation, clear strategies and appropriate resourcing.

Table 3.1 Healthy and accessible environment and landscapes everyone can connect with and enjoy – summary assessment

Theme	Past trends	Progress	Overall prospects
Landscapes, seascapes and natural beauty	**Not assessed**	**Limited**	**Largely off track**
Access and natural space provision	**Not assessed**	**Limited**	**Largely off track**
The next generation	**Not assessed**	**Mixed**	**Partially on track**

3.2 Introduction

Northern Ireland's landscapes, seascapes, and urban green and blue spaces shape the region's character. They reflect its history, support a shared sense of identity, and provide vital connections to the natural environment.[169] These connections are essential for human health and wellbeing, and help drive the behavioural changes needed to meet the ambitions set out across all areas of the EIP.[170]

The latest natural capital accounts show that in 2023, the health benefits in Northern Ireland from people visiting nature were valued at £237 million.[1] In the same year, health benefits from spending time in nature represented the second-highest asset value at £13 billion, followed by recreation and tourism at £12 billion.[1]

The EIP recognises that engaging people is fundamental to its success, and that the environment is key to wellbeing of individuals and society in an economic sense and in terms of general physical, mental and social health.[171] This strategic environmental outcome (SEO2) comprises five themes and aims to ensure that landscapes and seascapes are protected, maintained, and enhanced so they can be enjoyed responsibly by everyone; that all people have access to inclusive, shared, welcoming, and high-quality outdoor spaces; and that future generations are well engaged and well educated to help drive societal change.[171] These three aims are the main focus of our assessment and are addressed under landscapes, seascapes and natural beauty, access and natural space provision and the next generation.

3.3 Landscapes, seascapes and natural beauty

3.3.1 Context and commitments

The landscapes and seascapes of Northern Ireland are an important resource. They are dynamic, interconnected environments formed by the relationships between natural features, human activity, cultural meaning, and lived experience. They include not only the physical landforms, habitats, and ecological processes, but also the histories, land uses and social practices that give a place its character.[172,173]

Northern Ireland has eight Areas of Outstanding Natural Beauty (AONBs), two UNESCO Global Geoparks, and one UNESCO World Heritage Site, alongside many other significant, but undesignated, landscapes and seascapes. These include many areas that have protection under domestic and international legislation. AONBs are designated under the Nature Conservation and Amenity Lands (Northern Ireland) Order 1985, and the last designation was the merger of two existing AONBs, Strangford and Lecale in 2010.[174]

Northern Ireland, as part of the UK, is a signatory to the Council of Europe Landscape Convention, which commits governments to protecting, managing, and planning landscapes and to cooperating across Europe on landscape issues.[175] The Convention recognises landscapes of every type: exceptional, ordinary, urban, rural, and even degraded, as essential to people's quality of life. It reflects the public's desire for high-quality surroundings and acknowledges that landscapes contribute to individual and social wellbeing.[175]

The EIP includes the vision of ensuring that the natural beauty and character of our landscapes and seascapes are protected, maintained, enhanced and enjoyed by everyone responsibly.[171]

3.3.2 Key environmental trends

A summary assessment is provided in Table 3.3.1 with further detail below. The Green Flag Award is a UK-wide benchmark for well-managed parks and green spaces that meet certain standards in environmental management, cleanliness and maintenance, safety and accessibility, and community involvement.[176] The Blue Flag Award is an international eco-label for beaches, marinas, and sustainable boating tourism operators that meet certain criteria for water quality, environmental education, safety and services, and environmental management.[177] Both are managed in Northern Ireland by the NGO Live Here Love Here (formerly Keep Northern Ireland Beautiful).

Available data shows that between 2022 and 2025 there has been an increase in the number of Green Flag sites from 93 to 118. However, the number of Blue Flag sites decreased from 18 in 2023 to 16 in 2025 (Figure 3.3.1).[11]

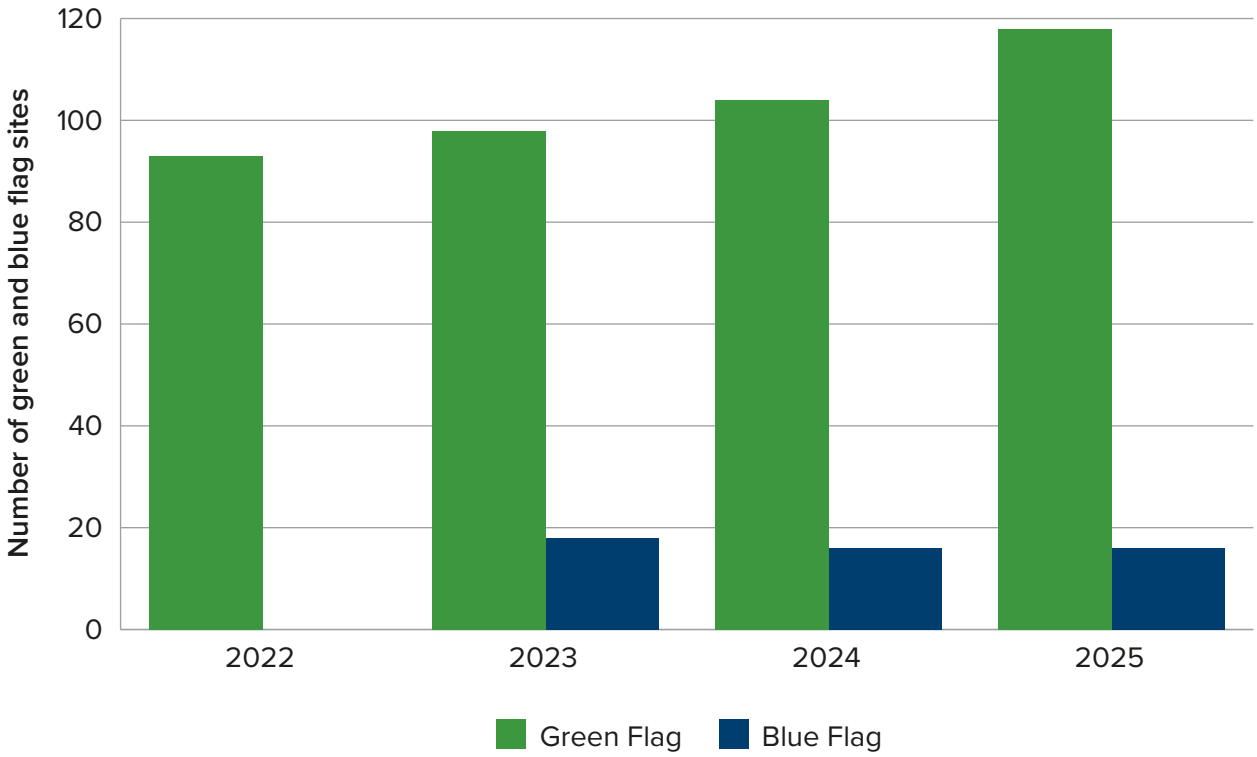


Figure 3.3.1 Numbers of Green and Blue Flag sites awarded for achieving certain environmental and social standards in Northern Ireland per year[11]

There is currently no dedicated or systematic monitoring framework for assessing the overall condition of AONBs in Northern Ireland, and little other evidence evaluating the status of their condition. Landscape and Seascape Character Assessments describe the environmental components of each landscape character area (such as geology, topography, vegetation and scenic attributes) and provide a qualitative description of how sensitive they are to change. However, they do not give a comprehensive assessment of the overall condition of AONBs or landscape/seascape areas that can be monitored over time.[178–180]

About one-fifth of land within AONBs is designated as protected sites including: Areas of Special Scientific Interest, Special Areas of Conservation, or Special Protection Areas.[181] The proportion of protected features in favourable condition within protected sites has been declining.[182] In 2008, 61.7% of assessed habitat and species features of Areas of Special Scientific Interest were in favourable condition. By 2025 this had fallen to 50.2%

(see Chapter 4). Monitoring by the Northern Ireland Environment Agency (NIEA) also indicates that habitats within protected sites are generally in better condition than those outside them.[182]

Historic and cultural heritage is a defining part of Northern Ireland's landscapes and seascapes. The Sites and Monuments Record contains over 18,000 archaeological sites and monuments, with new discoveries added regularly.[183] Most lie within the farmed countryside, and many are showing signs of deterioration. The Condition and Management Survey of Archaeological Remains, a statistical assessment of pre-1700 field monuments, found that only 7% of sampled sites were fully or substantially complete. This is defined as little or no damage and where outside factors do not appear to have significantly added to their deterioration. Sampled monuments and sites on arable land, improved grassland, and urban sites had the poorest survival rates. With regards to condition, over 90% of sites protected through state care, scheduling, or agri-environment agreements were shown to be in good condition. The study identified uncontrolled development, heavy grazing, and grassland improvement as the most damaging pressures on archaeological sites.[184]

Table 3.3.1 Landscapes, seascapes and natural beauty – summary assessment of key short-term trends

Indicator	Indicator trend	Indicator time period
Number of Green/Blue Flag sites		2022–2025

3.3.3 Progress towards ambitions, targets and outcomes

Overall progress during the reporting period in protecting, maintaining, enhancing and enabling responsible enjoyment of Northern Ireland's landscapes and seascapes has been limited. These environments have an important role to play in nature recovery, and the EIP identifies several actions needed to strengthen their protection and enhancement to support the delivery of benefits for people and nature.

The APR 2026 records progress in Green Flag accreditation, which provides an indication of the quality of parks and local green spaces. Fourteen additional sites received Green Flag status during the reporting period, bringing the total to 118. Broader initiatives to enhance and safeguard landscapes and seascapes have, however, seen limited advancement. The planned review of landscape policy and legislation and the development of a landscape strategy, which DAERA aims to complete by 31 March 2027, have not progressed substantially, largely owing to resource constraints and competing departmental priorities.[11] However, the APR 2026 reports that options for funding a legislative review are being explored and that preparatory work towards a landscape strategy has begun.

The main legislative framework governing landscapes is now four decades old. The Nature Conservation and Amenity Lands (Northern Ireland) Order 1985 places a statutory duty on public bodies to have regard to the need to conserve the natural beauty and amenity of the countryside, and to protect flora, fauna and geological and physiographical features of the countryside where reasonably practicable. It does not establish clear requirements for conservation, enhancement or long-term management of AONBs.[174] As a result, AONBs remain vulnerable to land use change and development pressures.

Weaknesses in the planning system contribute to the difficulties of managing and protecting landscapes within the existing policy framework. The Northern Ireland Audit Office (NIAO) has highlighted difficulties in managing applications with significant environmental implications. Problems, including the absence of clear guidance, inconsistent assessment of environmental impacts, delays in decision making and uneven application of policy, reduce the system's capacity to protect landscapes and natural assets.[185]

Recent amendments to the Planning (General Development Procedure) Order (Northern Ireland) 2015, which came into operation on 1 April 2025, aim to address some of these systemic issues.[186] The reforms seek to align planning procedures more closely with environmental regulations and strengthen the role of local councils by giving them explicit authority to set validation requirements for planning applications. This is intended to improve consistency and enable more rigorous management of the process. Statutory consultees have also been given extended timeframes to respond to applications requiring Environmental Impact Assessment. This reflects the complexity of environmental considerations and improves consistency with the Environmental Impact Assessment Regulations (Northern Ireland) 2017.[187]

Progress on Local Development Plans remains slow. Within the reporting period, only two of the eleven local councils adopted their Plan Strategy documents, while Newry, Mourne and Down District Council, and Ards and North Down Borough Council published drafts for consultation.[11,188,189] Although the Planning (Local Development Plan) Regulations (Northern Ireland) 2015 have been in operation for over a decade, no local council has completed a full Local Development Plan, which comprises a Plan Strategy and a Local Policies Plan. This delay reduces planning certainty and clear guidance for development, affecting sensitive landscapes and seascapes.[190] The Assembly's Public Accounts Committee has described progress as 'incredibly slow', citing underestimation of the complexity and scale of work required, shortages of key skills and resources within local councils, and an overly complex process.[191] The APR 2026 similarly attributes delays to the time-consuming nature of extensive evidence gathering requirements and limited local council resources.[11]

The Department for Infrastructure (DfI) acts as a statutory consultee for certain planning applications. Planning authorities are legally required to consult DfI where an application may affect matters within its remit.[192] In AONBs, this role is particularly important, as new or modified infrastructure can fragment landscapes, harm wildlife, diminish scenic quality and erode tranquillity. The APR 2026 notes that DfI continues to engage with DAERA on emerging environmental policy and planning issues to ensure its statutory responsibilities are met.[11]

The Northern Ireland Landscape Manifesto was also published by Landscapes NI (a coalition of environmental and landscape focused organisations) in October 2024. Although not a government initiative, the manifesto has been endorsed by DAERA.[193] It sets out a shared vision for protecting and enhancing the region's landscapes. The manifesto calls for stronger policy, modernised legislation and improved coordination across government, while highlighting long-standing weaknesses in the current system and emphasising the importance of landscapes for nature recovery, climate resilience and public wellbeing.[194]

3.3.4 Prospects of meeting ambitions, targets and outcomes

The overall prospects of protecting, maintaining, enhancing and enabling responsible enjoyment of Northern Ireland's landscapes and seascapes are largely off track. Although the EIP sets out clear strategic commitments, the current legislation and policy framework governing landscape and seascape management has not been updated and is inadequate for supporting these aims. This results in a gap between strategic intent of the EIP and the mechanisms available to deliver effective action, reducing the likelihood of achieving the stated objectives.[194]

The Landscape Action Plan, published in April 2026, has the potential to strengthen prospects. The plan is intended to guide action while the legislative and policy reform is being undertaken and provides a high-level list of six actions, with target dates. These actions comprise: conducting a review of Landscape Character Assessments; ensuring every AONB has an up-to-date Management Plan; establishing an interdepartmental group to coordinate landscape policy; developing the NI Landscape Charter; providing guidance on how AONBs and other key landscapes can support delivery of 30 by 30; and making the rationale for each AONB designation under the Nature Conservation and Amenity Lands (Northern Ireland) Order 1985 publicly accessible.[195] Greater clarity is required regarding the relationship between the delivery of the Landscape Action Plan and the implementation of proposals within the draft Nature Recovery Strategy, which includes the need to review existing landscape designations in order to establish a baseline of areas that meet the 30 by 30 criteria.[196]

These developments could strengthen the prospects of achieving landscape outcomes, but their effectiveness will depend on implementation and resourcing. At present, the focus for landscapes appears to mostly be on carrying out reviews and developing documents such as strategies, plans, frameworks, advice and guidance. While this is necessary, it will not, by itself, achieve the intended outcomes. Success will ultimately be achieved by taking action such as improving the legislative and policy framework and delivering measurable improvements to landscape quality on the ground. The Council of Europe Landscape Convention requires that policies and measures are both established and implemented.[175]

Reforms to planning legislation form part of the DfI's wider Planning Improvement Programme, a multi-year effort to address long-standing concerns about planning performance, environmental assessment, public engagement and the efficiency of decision making.[197] The programme responds to findings from NIAO and the Public Accounts Committee, which identified systemic issues including delays, inconsistent environmental assessment and unclear guidance.[185,191] These reforms are intended to strengthen environmental scrutiny, but the extremely slow roll out of Local Development Plans since 2015 continues to limit the planning system's ability to provide strategic direction for landscape and seascape protection. The Planning Improvement Programme includes a review of the Local Development Plan process, as well as revising existing development plan guidance.[197]

Pressures on landscapes and seascapes are intensifying. The Climate Change Risk Assessment 3 regional summary for Northern Ireland, identifies coastal flooding and erosion, and sea-level rise as key climate-driven risks affecting coastal landscapes. A strategic risk assessment of potential climate change impacts, specifically coastal erosion and flooding, was conducted in 2013. It found that visible coastal erosion affects approximately 15% of the coastline, with Strangford Lough and the Foyle estuary identified as particularly vulnerable in the near term. The dune system at Murlough is also considered at risk.[198]

Additionally, our report on drivers and pressures affecting terrestrial and freshwater biodiversity identifies land use change as a key pressure at a landscape scale. This is driven by the conversion and intensification of seminatural landscapes into areas for agriculture, urban development and industrial use.[89] These pressures are systemic, long-term and often cumulative. The result is that isolated or small-scale interventions struggle to deliver meaningful change at the landscape scale.

The extent to which landscape scale activity will be supported under the Farming with Nature Scheme and the Farming with Nature Landscapes and Priority Species Scheme, remains uncertain, although further details are expected later this year.[199] The draft Nature Recovery Strategy commits to launching a landscape scale strand of the Farming with Nature Package by 2027. Given this commitment, it will be essential that the design of the new landscape scale scheme draws on existing evidence about what enables effective collaboration, long-term participation and ecological impact in agri-environment programmes.[196] The former Environment Farming Scheme included some landscape scale mechanisms through its Group Level, which supported cooperative action by landowners in defined areas such as river catchments.[200] This scheme is now closed to new applications, and no equivalent mechanism has been introduced within the Farming with Nature Transition Scheme.

In the Future Agricultural Policy Decisions for Northern Ireland report, DAERA identifies protection of landscape and heritage as one of six proposed sustainability standards.[201] It is not yet clear whether, or how, this will be incorporated into later phases of the Farming with Nature Scheme and other future programmes. The absence of landscape scale schemes reduces incentive and support for coordinated, cross-boundary action, limiting the effectiveness of efforts and interventions at a landscape scale.

Taken together, these factors indicate that the prospects of achieving the overall aims for landscapes and seascapes are considered largely off track. The scale and persistence of pressures acting on landscapes and seascapes continue. Effective plans and actions have been identified, but without an increase in the pace and scale of action they are unlikely to deliver the scale of change required.

3.3.5 Opportunities for improvement

Strengthening the management and protection of landscapes and seascapes requires coordinated action across legislation, planning, evidence, and land-management policy.

A rapid review, leading to improvements to existing legislation, policy and delivery, is urgently needed to ensure that landscape management is able to respond to contemporary environmental challenges and aligns with best practices across the UK and Europe. This includes ensuring that the provisions of the Council of Europe Landscape Convention are being implemented. The review should consider, for example, how statutory landscape purposes and duties, management planning, governance and resourcing can be strengthened, alongside better integration of landscape considerations into sectoral policies to support coherent decision making and long-term stewardship. A revised legislative and policy framework should take stronger account of societal needs, climate action and nature restoration. It should enable AONBs to realise their potential in contributing to other EIP SEOs.

Northern Ireland lacks a comprehensive, up-to-date evidence base on landscape quality and change. The Council of Europe Landscape Convention requires landscape change and pressures to be monitored. Developing clear indicators and targets, consistent monitoring methods, and accessible datasets (such as those included in the Protected Landscapes Targets and Outcomes Framework for England) would enable more effective assessment of landscape quality over time.[202] A stronger evidence base would support policy evaluation, guide investment, and improve the transparency and accountability of landscape management.

Accelerating the preparation of Local Development Plans would strengthen the planning system's ability to respond to development pressures. Quicker, more robust plan making would reduce uncertainty for both communities and developers. It would also ensure that landscape and seascape protection is fully integrated into spatial planning. Local councils will need increased support and resources to achieve this.

Given the dominance of agricultural land use, empowering farmers is central to achieving resilient landscapes and ecosystems (see Chapter 5). Policy should prioritise targeted incentives, advisory services, and locally delivered support that enable land managers to adopt nature-positive practices in key landscapes. Long-term, stable funding and clear guidance in future phases of the Farming with Nature Scheme and Farming with Nature Landscapes and Priority Species Scheme would help farmers contribute to landscape restoration, climate resilience, and biodiversity recovery.

Recommendations for landscapes, seascapes and natural beauty

Recommendation 1: DAERA should reform legislation, policy and delivery relating to Areas of Outstanding Natural Beauty to reflect current environmental challenges and better support effective landscape and seascape protection, management and enhancement.

Recommendation 2: DAERA should prioritise establishing robust data collection processes and developing clear, measurable indicators and targets to support delivery, monitoring and evaluation of landscape quality.

Recommendation 3: The Department for Infrastructure should prioritise the publication of Local Development Plans and minimise further delays by improving and streamlining the plan-making process and supporting it with clear and effective guidance.

Table 3.3.2 Landscapes, seascapes and natural beauty – summary assessment

Past trends	There is currently no dedicated or systematic monitoring framework for assessing the overall quality of Areas of Outstanding Natural Beauty or landscape quality. Only limited timeseries are available for Green and Blue Flag sites preventing trend assessment. However, Green Flag sites have increased over the past 4 years, and Blue Flag sites decreased.	**Not assessed**
Progress in the reporting period	Actions to improve the ability of landscapes and seascapes to realise their potential to deliver for people and nature have been limited primarily due to competing priorities and resourcing issues.	**Limited**
Overall prospects of meeting ambitions, targets and outcomes	Outdated and inadequate legislation and policy, the lack of progress in addressing this and intensifying environmental pressures are undermining prospects. Recent planning reforms and the essential implementation of the Landscape Action Plan may improve prospects. Achieving the intended outcomes will require reforms to legislation and policy and delivering measurable improvements to landscape quality on the ground.	**Largely off track**
Robustness	There are gaps in the evidence base regarding the condition of Areas of Outstanding Natural Beauty and other iconic landscapes and seascapes. The assessment draws on publicly available data, stakeholder input and expert judgement.	

3.4 Access and natural space provision

3.4.1 Context and commitments

Spending time outdoors offers a wide range of physical and mental health benefits, supporting physical activity, reducing stress, and contributing to overall wellbeing. Beyond these individual outcomes, time spent outdoors provides an opportunity to connect with shared natural heritage. It is associated with increased appreciation of nature, and pro-environmental behaviours.[203] However, these benefits are dependent on access to green and blue spaces. Evidence indicates that the accessibility of outdoor spaces is a key to the use of these spaces and that access to outdoor spaces is not evenly distributed across society.[204] This means that barriers to access result in corresponding inequalities in the ability of different groups to benefit from nature and participate in shaping their outdoor environment.

The EIP sets out the intention to improve quantity, quality and accessibility of existing natural spaces, parks, recreational routes as well as marine and freshwaters. Engagement in the processes shaping these spaces can also strengthen connections and support more inclusive decision making. The Programme for Government identifies investment in outdoor recreation as a priority, using local availability of greenspace as one of their wellbeing indicators.[12]

The EIP sets out a target to annually increase the proportion of households with access to publicly accessible, high-quality natural space greater than two hectares within 400 metres, as well as access to at least one site larger than 20 hectares within two kilometres. The long-term target is for 84% of households to meet this standard by 2050. In addition, the EIP sets an ambition for 90% of the population to visit the natural outdoors at least once per week by 2050. Achieving these ambitions will require not only improved access but also the development of the knowledge, skills and behaviours that enable individuals and communities to engage meaningfully with the natural spaces around them.

3.4.2 Key environmental trends

A summary assessment is provided in Table 3.4.1 with further detail below. The Greenspace Northern Ireland (NI) map, a digital resource showing all the publicly accessible green spaces and off-road trails in Northern Ireland, was launched in 2023.[205] It provides a comprehensive composite dataset encompassing natural spaces accessible to the public, including urban and rural parks, forests, beaches, and off-road trails. It shows that between 2023 and 2025 the percentage of houses within 400 metres of accessible natural space greater than two hectares or an off-road trail has seen no meaningful change, decreasing marginally from 47.9% to 47.8% as shown in Figure 3.4.1 below.[93] In 2025, 84.3% of households were within 2 kilometres of accessible natural space greater than 20 hectares or an off-road trail, similar to previous years.[93]

Between April 2023 and 2025, an additional 13,381 households have been recorded on the Greenspace NI Map. However, during the same time period the number of households recorded within 400 metres of green space or an off road-trail has only increased by 5,316.[205] Whilst 47.8% of the total number of households are within 400 metres of green space, large discrepancies in access occur between urban and rural populations. When considering rural areas explicitly, 19.3% of households fall within this 400 metre zone, compared with 62.9% of households in urban settings.[206]

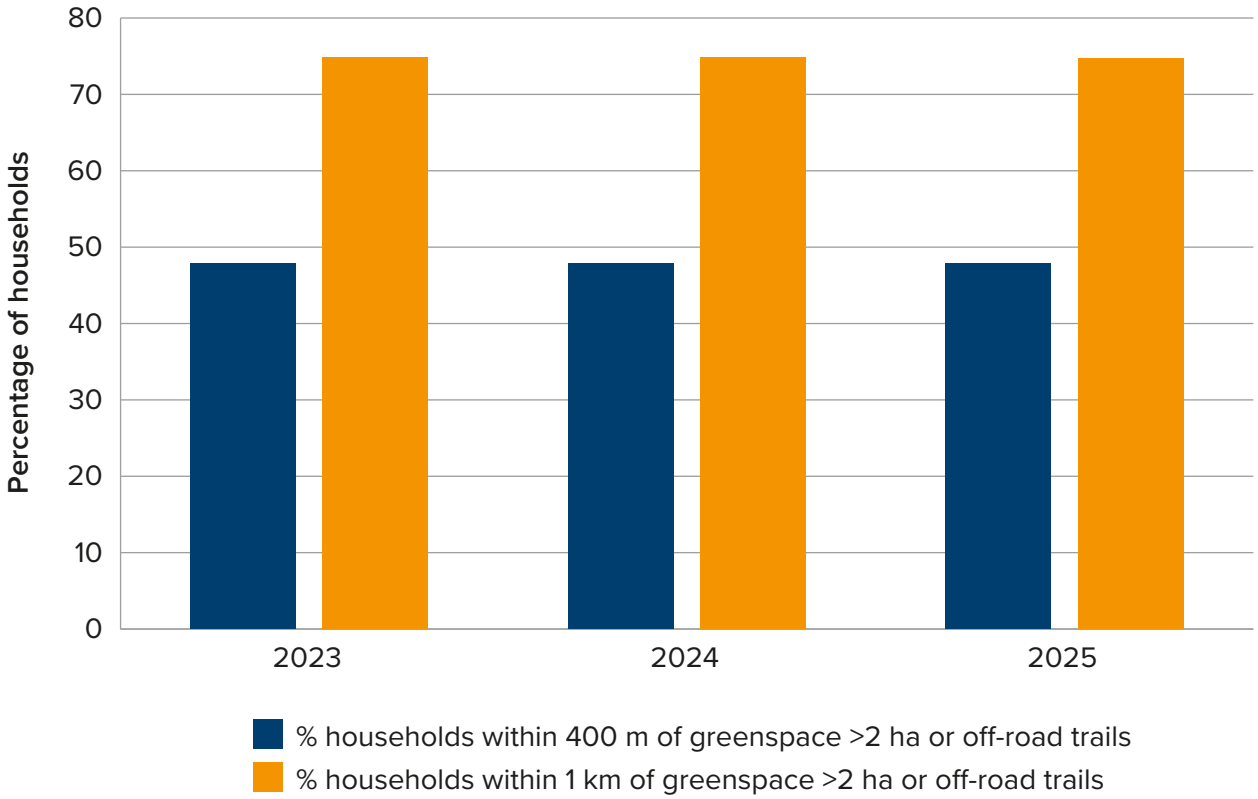


Figure 3.4.1 Percentage of households that have publicly accessible high-quality natural space > two hectares and off-road trails within 400 metres (shown in blue), and one kilometre (shown in orange)[93]

Preliminary results of the People in the Outdoors Monitor Northern Ireland (POMNI) survey 24/25 found that as of April 2025, 70% of adults spend time in the outdoors at least once a week.[207] This is a 1% decrease from the last survey carried out in 2020/2021.[208] The previous survey was undertaken during the Covid-19 pandemic, which is likely to have affected outdoor visitation rates, with lockdown restrictions and health concerns providing

a strong barrier to visiting the outdoors during the initial survey period and becoming less important to those surveyed as restrictions were lifted.[208]

Engagement with the outdoors remains relatively high, but the most recent survey indicates that there is no increase in the percentage of people visiting the outdoors weekly. In addition, participation remains uneven across demographic groups. Headline reporting identifies that people with disabilities and those on lower incomes are still underrepresented in outdoor recreation.[207] While full detailed reports are not yet available, previous reports showed that in 2020/2021, 51% of people who were unemployed visited the outdoors for leisure at least once a week, compared with 78% who worked full or part time.[209] In the same survey period, it was reported 60% of people with a long-term illness or disability engaged in leisure activities in the outdoors weekly, with 13% saying they never engage in outdoor activities away from home.[210]

Common obstacles to outdoor participation were a lack of suitable local greenspaces, poor health, transport barriers, discomfort using these spaces alone, and perceptions of exclusion.[208] Groups most likely to be affected by these barriers were women, disabled people, and less affluent people.[204] Preliminary analysis shows that a lack of facilities such as toilets, seating, safe trails and convenient public transport further reduce the use of outdoor and natural space.[204] These findings highlight that large-scale barriers still challenge the equitable accessibility of green space and therefore these trends might not change radically and quickly.

The POMNI survey also highlights a clear discrepancy between the geographic location of green spaces, and people's perceptions of their access to these spaces. Although close to half of households are located within 400 metres of a greenspace (a distance generally equivalent to a five minute walk), survey results show that only 17% of respondents consider that they live within a five minute walk of a greenspace. In addition, 47% of those surveyed reported needing a car to reach their nearest greenspace.[207] This mismatch between objective proximity and perceived or practical accessibility suggests that factors such as quality, safety, and awareness of local green spaces are limiting use and engagement, or that current modelling is over generous in its definition of greenspace.

Table 3.4.1 Access and natural space provision – summary assessment of key short-term trends

Indicator	Indicator trend	Indicator time period
Increase in the % of households that have publicly accessible quality natural space >2 ha and off-road trails within 400 metres		2023 to 2025
Percentage of adults visiting the outdoors at least once a week		2020/2021 to 2024/2025

3.4.3 Progress towards ambitions, targets and outcomes

A summary assessment is provided in Table 3.4.2 with further detail below. The APR 2026 identifies 19 actions under this theme.[11] Some progress has been made during the reporting year in improving access to the natural environment, but most planned actions have either not started or shown only limited progress. This is largely due to competing

operational pressures, and delays associated with the recruitment processes needed to fill vacancies and establish new posts essential for delivery. The APR 2026 reports that many of the actions are interdependent and will need to be developed in parallel for meaningful progress to be achieved.

Significant progress has been made during the reporting period on strengthening the evidence base. Government has part-funded the development of the Greenspace NI Map. While this resource existed previously, work over the assessment period has resulted in additional green spaces and trails been added.[206] Although this does not directly provide more green space, the map provides an evidence base for future greenspace interventions and policy, showing where action is most needed geographically.

The continuation of the POMNI survey provides a complementary dataset, monitoring usage rates of the outdoors and providing insights into socio-economic barriers that limit participation. The most recent survey highlights a lack of suitable local greenspaces, transport barriers, perceptions of exclusion, and a lack of high-quality amenities and infrastructure as barriers to greenspace use.[207] The persistence of these barriers suggests that, despite recent actions, the pace and scale of social and infrastructural interventions must increase if future gains in visitation rates are to be equitable across society.

The evidence base on access and factors affecting greenspace use is developing, but progress on the creation of new publicly accessible greenspaces and trails has been limited. Within the reporting period three additional trails were recorded on the Greenspace NI Map.[205] This level of change is not enough to achieve meaningful improvements in access and to meet targets. The APR 2026 states that increasing the percentage of households with access to green and blue spaces will be reliant on cross-departmental collaboration, securing additional funding streams, and the development of action plans and legislation.[11] DAERA reports that no progress has been made on these actions. However, the APR 2026 indicates that a work plan is in place.

The quality of green space is key to usage rates. The provision of new green spaces has remained largely at a standstill, but some progress has been achieved in improving the quality and access within existing sites. Activities have been supported through the progression and completion of projects funded under the 2023 Shared Prosperity Fund allocation of £1.3 million, as well as substantial investment through the Environment Fund.[211] These include the creation and restoration of pathways in key local sites such as Divis and Black Mountain in the Belfast Area, and Lecale Way in Mourne Gullion Strangford Geopark. Although improvements such as these are not reflected in the access targets, they are critical in ensuring the continued use of existing spaces.

Implementation of both the Exercise-Explore-Enjoy: A Strategic Plan for Greenways, and Making Belfast an Active City: Belfast Cycling Network 2021 strategies is progressing.[212,213] However, delivery is behind schedule. As part of a wider report on active travel, NIAO highlighted that the Strategic Plan for Greenways set targets for the delivery of 440 kilometres of primary greenway infrastructure and 596 kilometres of secondary infrastructure by 2040. Interim targets were for 75% of primary infrastructure and 25% of secondary infrastructure to be delivered by 2026. As of April 2025, NIAO reported that 30% of primary infrastructure and 5% of secondary infrastructure have been completed.[60] This shows that it is impossible to achieve the upcoming interim targets. Since the reporting period, the Department for Infrastructure (DfI) have accepted the NIAO's recommendations.[214]

Implementation of the Belfast Cycling network is similarly off target.[60] This underperformance has implications beyond recreational provision and increasing access to outdoor spaces. Greenways and cycling infrastructure contribute to transport decarbonisation and support modal shift objectives within active travel strategies. This means that slower roll out limits progress towards emission reduction, air quality improvements, and public health outcomes.

Funded through NIEA Environment Fund and a Sport NI grant, Outscape has developed and delivered a Changing Places in the Outdoors Action Plan and Toolkit for a regional network of inclusive outdoor recreation locations.[215] Lack of accessible facilities have previously been reported as a barrier to participation in outdoor spaces.[204,208] The plan includes prioritisation of changing places toilets across geographical gaps and diverse greenspace types, and the integration of greenspace quality into the Greenspace NI Map.[215] Since the reporting period, these actions have been complemented by training sessions facilitated by Outscape.[216]

Progress has also been made with regards to bathing waters, particularly for coastal sites. The review and publication of the Quality of Bathing Water (Amendment) Regulations (Northern Ireland) 2025 resulted in the designation of additional bathing water sites, increasing the total from 26 to 33.[155] Almost all designated sites are coastal and are discussed in further detail in Chapter 2. The first inland site, at Rea's Wood on Lough Neagh, was also designated and is the only inland bathing site in Northern Ireland. However, its water quality is classified as poor due to recurrent blue-green algae blooms.[217]

The APR 2026 states that a range of actions need to happen before real progress can be made in improving the quantity, quality and accessibility of existing natural spaces, increasing trail networks, and increasing the facilitation and provision of recreation facilities on government-owned land.[11] These include the development of cross-departmental coordination mechanisms, funding structures, and strategic plans. All have been delayed due to staffing constraints within DAERA resulting in limited progress in the provision and enhancement of recreational spaces and trails.

Staffing bids have now been approved and vacancies are awaiting recruitment competitions.[11] However the development of action plans and policies such as the Outdoor Recreation Strategy and Action Plan, the Community Trail Network, and the Green/Blue Places Plan, are essential. These must be underpinned by strong evidence and adequate funding and shaped by meaningful participation from the public and delivery partners. Delays in their publication leave the sector without clear strategic direction and reduce the timeframe available to deliver the scale of expansion needed to meet targets. They can also contribute to short-term planning cycles within delivery organisations, making it difficult to sustain longer-term projects.

Overall progress in increasing the percentage of households that have publicly accessible quality space has been limited. While the development of monitoring resources is welcome, there has been little material change in the provision of green and blue spaces. Staffing shortages within relevant government departments have prevented many actions from progressing as planned, and the interdependence of these actions has increased delays by creating delivery bottlenecks.

Progress towards the target of 90% of the population visiting the natural outdoors at least once a week has been limited. Strengthening monitoring of participation and improving understanding of non-geographic barriers are essential early steps in addressing this issue. There has been some progress in making existing outdoor spaces more accessible. However, widespread barriers remain and continue to constrain equitable engagement.

Table 3.4.2 Access and natural space provision – summary assessment of progress over the annual reporting period towards meeting targets and outcomes

Targets and outcomes	Progress
Annual increase in % of households that have publicly accessible quality natural space >2 ha within 400 metres and at least one site >20 ha in size within 2 km.	**Limited**
By 2050, 84% of households have publicly accessible quality natural space >2 ha within 400 metres and at least one site >20 ha in size within 2 km.	**Limited**
By 2050, 90% of the population visiting the natural outdoors at least once a week.	**Limited**

3.4.4 Prospects of meeting ambitions, targets and outcomes

A summary assessment is provided in Table 3.4.3 with further detail below.

While there has been limited progress on delivery, intended actions on progressing access provide a coherent plan for increasing the percentage of households within 400 metres of a greenspace site greater than two hectares. As a result, the prospects of meeting this target are partially on track.

Nonetheless, there remains a 36.2% shortfall in the percentage of households within 400 metres of qualifying greenspace relative to the 2050 target of 84%. Closing this gap will require an average annual increase of approximately 1.5%, a rate of change that will need increased action. A 20% gap exists between current levels of weekly outdoor visitation and the 90% target for 2050, with no evidence that this deficit is narrowing.

Another factor shaping the prospects of meeting accessibility to greenspace targets is the persistent lack of provision in rural areas. Although rural landscapes contain extensive natural space, patterns of private land ownership restrict public access. The APR 2026 notes that NIEA will seek clarity around the opportunities within the Sustainable Agricultural Programme to support farmers who provide access provision, and to seek to ensure that farmers who do are not penalised in relation to farm payment eligibility.[11]

The Future for Agricultural Policy Decisions in Northern Ireland report includes the principle that environmental payments will, as far as possible, seek to recognise and reward the public goods provided by farmers and land managers.[201] Currently, however, the Farming with Nature Transition Scheme includes no actions related to public access, such as permissive paths, educational access and recreation facilities, and is designed around environmental land-management measures.[218] There is also little evidence to suggest that future phases of the Farming with Nature Scheme will introduce public-access options, as the programme is centred on habitats, water, carbon, and green infrastructure. Without dedicated funding streams and a clear policy commitment to expanding rural access, the prospects of improving provision in rural areas will remain limited.

Planning policy is a key lever available to government to improve greenspace provision for new developments, but current trends indicate that residential growth is outpacing green space delivery. Under both the Strategic Planning Policy Statement and the Regional Development Strategy 2035, new development is expected to provide adequate open space and green/blue infrastructure.[219,220] However, both policies state that such provision should be promoted, rather than that it is required. In addition, the promotion of open space and blue/green infrastructure is only one material consideration amongst many that influence planning decisions, and pressure for more housing continues.

A critical constraint on future progress is the continued absence of policy instruments that were intended to provide strategic direction, such as the Green and Blue Places Plan, new outdoor recreation legislation, and the Outdoor Recreation Action Plan. Until these are published, there is no shared reference for government, delivery partners and the wider sector to orientate around, or policy informing the targeting of interventions. Without a coherent framework for delivery, clarification of roles and responsibilities, and expanded mechanisms through which access and accessibility will be achieved, prospects of achieving EIP ambitions, targets and outcomes cannot be fully realised.

Furthermore, current access related activities do not fully recognise or develop the potential contribution of blue spaces and coastal areas to meeting access targets. Although planning policy such as the Strategic Planning Policy Statement supports coastal access, and the number of bathing water sites has been increased through reviewing and publishing the Quality of Bathing Water (Amendment) Regulations (Northern Ireland) 2025 (see Chapter 2), the lack of systematic integration of blue-space opportunities reduces the prospects for expanding access.[155,219]

Both the proximity and quality of green and blue spaces determine how they are used. Whilst the EIP provides a credible plan for enhancing them, improvements in provision and quality alone are unlikely to be enough to guarantee meeting the target of 90% of the population visiting the natural outdoors at least once a week by 2050. Key behavioural barriers, such as perceptions of safety, community inclusion, and perceived accessibility, continue to limit participation even where provision exists. These barriers reflect social norms, individual capability and confidence, perceived opportunity and motivation. Government action to date has focused primarily on improving provision, with limited explicit application of behaviour-change approaches needed to address the systemic drivers and inhibitors of participation. As a result, the prospects of 90% of the population visiting the outdoors at least once a week are largely off track.

While prospects of achieving access related targets are more promising than achieving the target of 90% of the population visiting the natural outdoors at least once a week, when considering ambitions within the broader theme, overall prospects are largely off track.

Table 3.4.3 Access and natural space provision – summary assessment of prospects of meeting targets and outcomes

Targets and outcomes	Prospects
Annual increase in % of households that have publicly accessible high-quality natural space >2 ha within 400 metres and at least one site >20 ha in size within 2 km.	**Partially on track**
By 2050, 84% of households have publicly accessible high-quality natural space >2 ha within 400 metres and at least one site >20 ha in size within 2 km.	**Partially on track**
By 2050, 90% of the population visiting the natural outdoors at least once a week.	**Largely off track**

3.4.5 Opportunities for improvement

Actions set out in the EIP and APR 2026 provide a credible way forward. However, they need to be accompanied by a structural shift in provision rates, access mechanisms, behavioural interventions, and policy delivery.

The absence of effective cross-government coordination remains a significant barrier to progress. Responsibilities for outdoor recreation, green infrastructure, and urban planning are spread across multiple departments and agencies. This leads to duplication, gaps, and conflicting priorities. Re-establishing the Strategic Outdoor Recreation Group, or similar body, would create a shared forum for planning, problem solving, and aligning delivery.

A renewed Strategic Outdoor Recreation Group could set joint objectives, coordinate policy across bodies such as DAERA, Sport NI and DfI, strengthen the evidence base through programmes like POMNI, identify conflicts early and support joint funding bids. They could also ensure that access to nature is embedded in wider policy areas including health, education, and climate change resilience and mitigation. Without the structure such a body could provide, progress will continue to depend on ad-hoc relationships and individual champions rather than on a stable, system wide approach.

The Greenspace NI Map and the POMNI survey provide important insight into where and how people have access to outdoor spaces and why some groups remain excluded, highlighting barriers. These datasets provide an excellent first step for more equitable and strategic decision making. The next step is to embed this intelligence systematically into planning processes, funding decisions, and cross-departmental policy development, so that the insights gleaned from these tools are translated into policy development and delivery. This will ensure that future greenspace interventions address geographic, social, and accessibility needs in a coherent and equitable way. Effectively addressing the barriers highlighted in the POMNI survey would be strengthened by applying behaviour change science and the use of behavioural insights to inform public engagement and policy development. Findings from the POMNI surveys should inform both the development of new greenspaces, and the maintenance or enhancement of existing sites.

Environmental Non-Governmental Organisations (eNGOs) bring knowledge, strong community relationships, and proven delivery capability. There is considerable scope to harness this expertise more effectively. By positioning eNGOs as strategic partners rather than short-term implementers, government can maximise the impact of existing capacity, expertise, and local knowledge and networks.

There is opportunity to improve the safe use of blue spaces through the designation of additional inland and coastal bathing water sites. Doing this triggers routine monitoring, which can drive improvements in the quality of recreational waters and enables the public to make informed decisions about water-based activities. We have also previously recommended that implementation of the Quality of Bathing Water Regulations (Northern Ireland) 2008 should include extending the bathing season to reflect actual patterns of use and broadening the definition of bathers to encompass a wider range of water-based recreation.[151]

Prospects for strengthening rural access can be improved by understanding the behavioural changes needed and establishing dedicated funding and clear mechanisms to support landowners who provide public access through the Sustainable Agriculture Programme. As noted in the APR 2026, the NIEA needs to maximise opportunities within the Sustainable Agricultural Programme to support farmers who provide access, and to seek to ensure that those who do are not penalised in relation to farm payment eligibility.

Addressing staffing and resourcing pressures offers a clear path to more effective and resilient delivery. Strengthening the workforce and resource base within DAERA will enable more consistent, high-quality delivery and reduce reliance on short-term fixes.

Recommendations for access and natural space provision

Recommendation 1: DAERA should establish a new Strategic Outdoor Recreation Group, or similar body, to provide a stable, cross-departmental mechanism for setting shared goals, coordinating policy, strengthening evidence and supporting joint funding.

Recommendation 2: The Department for Infrastructure and local councils should build on the good work that has been done in updating the Greenspace NI Map and use the spatial data it provides to improve and address inequalities regarding access to green and blue spaces.

Recommendation 3: DAERA should prioritise developing the key strategies and plans identified in the EIP to improve access to nature and work in partnership with trusted organisations, including environmental Non-Governmental Organisations and local community groups to align efforts to maximise overall impact.

Table 3.4.4 Access and natural space provision – summary assessment

Past trends	Long-term data are not yet available but short-term data show little change in greenspace access or weekly outdoor visitation since 2021. Use of natural spaces also remains unequal, with lower-income groups and people with disabilities continuing to visit the outdoors less often.	**Not assessed**
Progress in the reporting period	Most actions have either not started or have made only limited progress, largely due to staffing shortages, recruitment delays, and interdependencies. Evidence-base work has advanced, but this has not yet translated into measurable improvements on the ground. Some local enhancements have been delivered, but major programmes such as greenways and cycling networks remain behind schedule. With key policies still unpublished and many actions stalled, overall progress has been limited.	**Limited**
Overall prospects of meeting ambitions, targets and outcomes	The EIP provides a credible plan to increase people's access to the outdoors but gives limited attention to blue spaces. Despite supportive planning policies, greenspace provision has not kept pace with housing growth. Inclusion of access provision into the Sustainable Agricultural Policy could minimise geographic disparities and improve access in rural areas.	**Largely off track**
Robustness	New datasets have strengthened the evidence base for greenspace access, but no indicators yet provide enough data points to establish reliable trends. The assessment draws on publicly available data, stakeholder input and expert judgement.	

3.5 The next generation

3.5.1 Context and commitments

Engaging people, of all ages, in nature is essential for fostering sustained participation in environmental stewardship and long-term commitment to the environment, both now and for future generations.

The UK has one of the lowest rates of nature-connectedness in the world.[221] Data from the RSPB's Connection to Nature Index show that only around one in five children in Northern Ireland report a strong connection to nature, with average scores falling slightly below the UK mean.[222] This limited sense of connection is significant, as research demonstrates that children's exploratory, aesthetic, and ecological experiences in natural settings are key to building the bonds with nature, which in turn supports environmentally responsible behaviour.[223]

Early exposure helps build awareness and motivates pro-environmental behaviour. Beyond its environmental benefits, regular engagement with nature is also associated with benefits for physical and mental health, wellbeing, personal development, and learning.

Community participation in environmental education and conservation initiatives and in the creation and maintenance of open space is also important. Collaborative approaches build social capital and strengthen residents' sense of ownership, which in turn supports sustained pro-environmental behaviour. Empirical evidence from participatory environmental projects demonstrates that involving people in planning, monitoring, or decision making can lead to measurable gains in environmental stewardship, community connectedness, and pro-environmental actions.[224]

Against this backdrop, the EIP sets out a clear vision to cultivate highly engaged and well-educated future generations with the necessary knowledge, skills and behaviours to drive societal change. Central to this vision is the aim that children and young people should be able to access, experience, and actively improve the natural environments in which they live, learn, and play.[171] The EIP includes the commitment that by 2030 every child spends time in the natural outdoors at least once a week. It also includes several short-term actions and broader statements of intent regarding engaging children, young people and communities.[171]

3.5.2 Key environmental trends

A summary assessment is provided in Table 3.5.1 with further detail below.

Levels of environmental concern among adults are reported in the Northern Ireland Environmental Statistics Report, along with indicators of pro-environmental behaviour. However, there are currently no indicators to track how much time children spend outdoors, nor is there any consistent monitoring of the impact of initiatives among younger generations in promoting environmental stewardship. This creates a notable gap in understanding their relationship with nature.

Available data on adults engagement with nature currently has insufficient data points to establish robust trends, and changes in survey methodology further limit the comparability of results over time. With regards to levels of concern for the environment (Figure 3.5.1), the most recent figures (2024/25) indicate a rise in the percentage of respondents from the previous year who were 'not at all concerned' (from 5% to 8%) and 'not very concerned' (from 17% to 20%), with a decline in those who were 'fairly concerned' (from 51% to 46%).[93]

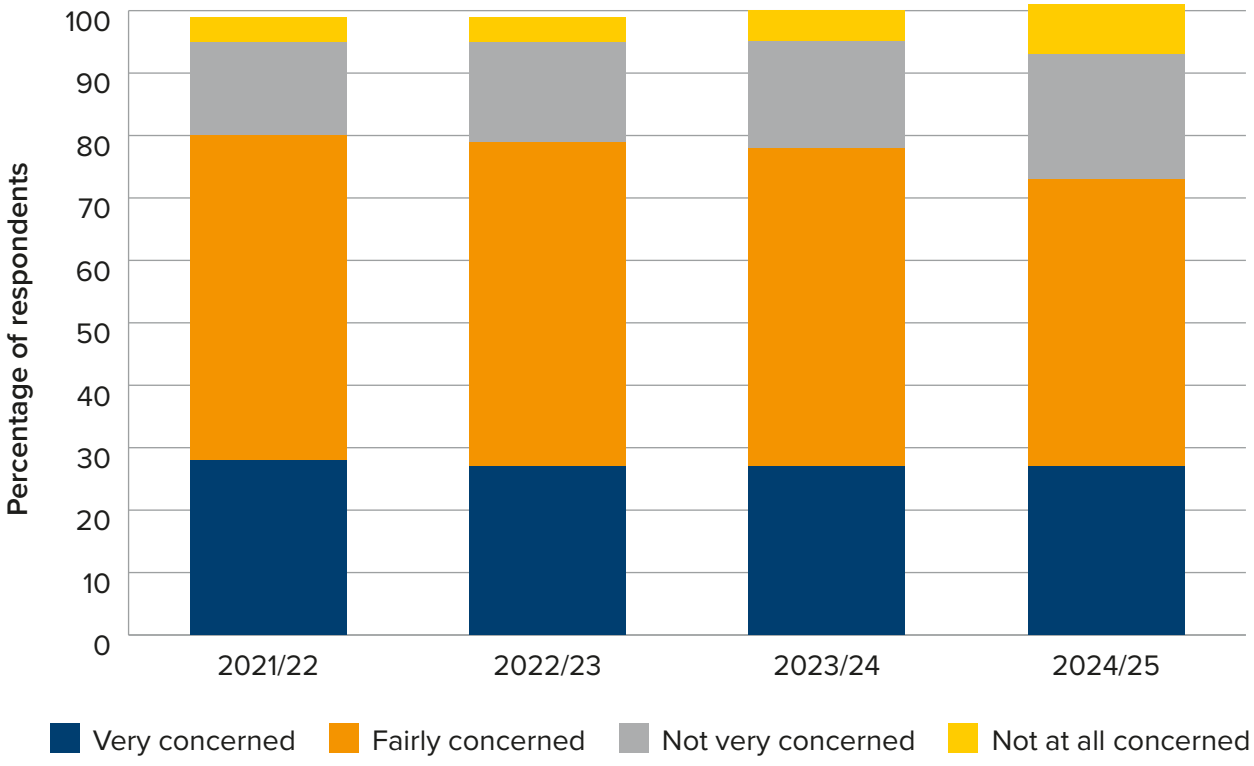


Figure 3.5.1 Levels of concern for the environment among adults in Northern Ireland. Totals may not sum to 100% due to rounding[93]

Data regarding pro-environmental behaviours (Figure 3.5.2) mostly showed a decrease since 2023, except for the actions 'reduced, recycled, and disposed of waste products appropriately' and 'joined or donated to an environmental group', which remained the same.[93]

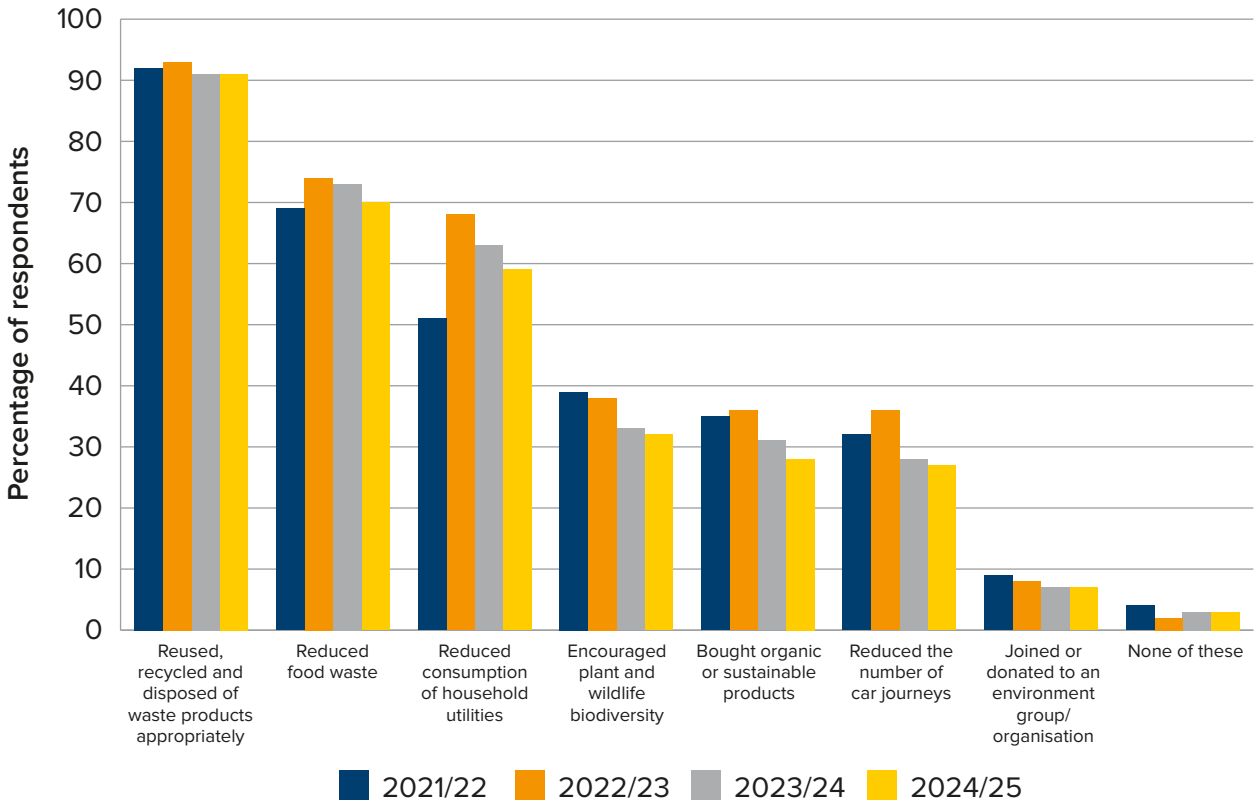


Figure 3.5.2 Actions undertaken by adults in Northern Ireland that have a positive impact on the environment

With regards to children and young people, the Education Authority's Regional Assessment of Need 2026–2029 highlights concerns among children and young people in Northern Ireland. About half (54%) of young people reported that they do not feel that there are enjoyable activities available in their local area, compared with 33% of all respondents. In addition, 27% of young people feel they lack safe spaces to spend time with friends. Around a quarter also felt they had limited opportunities for physical activity and insufficient access to emotional wellbeing support.[225] Notably, 70% do not believe enough is being done to address climate change. Although the survey does not measure their connection to nature directly, it shows that environmental stability is a major concern and that climate change is viewed as a significant issue by children and teenagers.[225]

Belfast City Council's (2021) online survey with 1200 young people also reported that 52% of young people suggest that they are very or extremely concerned about climate change and 88% of young people thought something could be done to reduce the negative effects of climate change.[226]

Interest in various environmental issues was reflected in The Kids' Life and Times Survey undertaken by the Access Research Knowledge (ARK) research hub run by Queen's University Belfast and Ulster University. Respondents were asked how important or unimportant they felt each of the six EIP strategic environmental outcomes were. Results showed 94% of the children selected 'cleaner air, water and land' as important or very important, followed by 'healthy outdoor spaces everyone can visit and enjoy' with 91%

of respondents considering it important or very important. Even though 'tackling climate change' had the lowest score, four out of five (80%) respondents listed it as very important or important.[227]

Taken together, these surveys indicate that concern about environmental issues is widespread among young people in Northern Ireland. They also highlight several contextual factors that may act as barriers to their engagement with nature, for example, perceptions regarding the lack of safe spaces and opportunities for physical activity.

Table 3.5.1 The next generation – summary assessment of key short-term trends

Indicator	Indicator trend	Indicator time period
Level of concern for the environment	⊖	2021/22 to 2024/25
Actions taken that have a positive impact on the environment	⊖	2021/22 to 2024/25

3.5.3 Progress towards ambitions, targets and outcomes

Overall progress has been mixed. Progress toward the commitment to ensure that every child spends time in the natural outdoors at least once a week by 2030 is difficult to evaluate. This is largely because the commitment lacks an operational definition and has no agreed metric or monitoring framework (see Table 3.5.2 below). The APR 2026 notes that work on this commitment is not progressing and that no workplan has yet been developed, primarily due to limited coordination and capacity constraints.[11]

More broadly, however, the APR 2026 identifies a range of ongoing activities aligned with the wider theme of engagement with nature. Many of these initiatives are delivered by Non-Governmental Organisations and supported in part through the Environment Fund.

Actions highlighted include the continued expansion of the Eco-Schools programme, delivered by Live Here Love Here. It aims to increase pupils' awareness of environmental issues and to integrate practical environmental activity into school life. Northern Ireland now has one of the highest levels of Eco-Schools engagement globally with 50% of schools having attained an active Green Flag in 2025.[228] While there are exceptionally high participation rates and positive case studies, there is little evidence to illustrate the programme's effectiveness at achieving long-term behavioural change and the quality of implementation also varies between schools, with limited student agency in some.[229,230] Nevertheless, the programme's long-standing presence in Northern Ireland, combined with its emphasis on practical environmental projects, has helped embed environmental education within school culture.[229]

Broader delivery of outdoor learning and engagement with nature is uneven across schools. The recent Strategic Review of the Northern Ireland Curriculum, undertaken in November 2024, identifies supporting young people to be contributors to the environment as a key principle and recognises that climate change and other environmental issues are no longer abstract possibilities but everyday realities for young people.[231]

The Education for Sustainable Development Forum in Northern Ireland continues to deliver the Strategy and Action Plan for Education for Sustainability (2021) on an ongoing basis.[232] But the strategy is now five years old and, as part of the Northern Ireland Environment Link's recent manifesto, the Forum has laid out revised aims to strengthen education for sustainable development and outdoor learning.[233] According to the APR 2026, progress on implementing the Education for Sustainability Strategy and Action Plan is hindered by the absence of defined timeframes and departmental capacity within DAERA.

With partial funding through the Environment Fund, Live Here Love Here also delivered the 30-Under-30 Environmental Leaders Programme, trained 70 Forest School leaders, and supported eNGOs to run Youth Ranger programmes, environmental youth forums, and training accredited by the Assessment and Qualifications Alliance in facilitating nature-based wellbeing activities.[11] These programme-based initiatives have strengthened opportunities for young people to engage directly with nature and participate in environmental action.

Alongside this practical delivery, digital support has also been strengthened during the reporting year. In June 2025, myEARTH, a new digital hub for environmental learning and action, was launched by the Education for Sustainable Development Forum to help people respond to the climate and biodiversity crises.[11]

Other activities, not reported in the APR 2026, included the Assembly passing a motion calling for the development of a Strategy for Outdoor Learning in Schools. It welcomed the Northern Ireland Forest School Association's contribution and called on the Minister of Education to embed weekly, progressive, and sustainable outdoor learning into the curriculum for all pupils aged between three to 18 by the end of 2026. It also called on the Minister to work with the sector to develop a full outdoor learning strategy.[234]

The Northern Ireland Forest School programme continued to grow during this period. Delivered by the Northern Ireland Forest School Association and funded through local councils and other partners, the programme provides regular, curriculum-linked learning experiences in natural settings to build children's environmental awareness and confidence. By late 2024, more than one-fifth of primary schools in Northern Ireland were registered as Forest Schools. Northern Ireland Forest School Association also has a dedicated outdoor education site at its forest school in Clandeboye Estate, Bangor, offering an established after-school outdoor learning programme.[235,236] Furthermore, in February 2025, the Department of Education launched a new Outdoor Learning Project, allocating £4 million to pre-schools, nursery schools, primary schools, and special schools to buy outdoor furniture and equipment needed to enhance high-quality outdoor learning.[237]

Table 3.5.2 The next generation – summary assessment of progress over the annual reporting period towards meeting targets and outcomes

Targets and outcomes	Progress
By 2030, every child spends time in the natural outdoors at least once a week.	**Not assessed**

3.5.4 Prospects of meeting ambitions, targets and outcomes

Overall, the likelihood of achieving EIP ambitions and commitments is partially on track. Although there is not enough evidence to assess the prospects of meeting the commitment that children spend time outdoors once a week, there are some emerging signs that suggest improving prospects for strengthening people, and particularly children's, connectedness with nature.

The recent Strategic Review of the Northern Ireland Curriculum identifies four objectives for a revised curriculum. One is to support young people to be contributors to the economy and the environment. It specifies that this should include understanding how individual and collective actions affect the environment.[231] Consequently, it calls for more deliberate and coherent inclusion of environmental learning in the curriculum, so that learners develop the knowledge, skills, and attitudes needed to respond to the environmental challenges they will inherit. This creates an opening for integrating environmental education and outdoor learning more systematically across subjects. However, this has not yet been fully embedded or prioritised in the proposed curriculum review framework.

The Assembly's motion on 'Curriculum Mainstreaming and Strategy for Outdoor Learning', is also an indication of increasing awareness of the importance of outdoor education.[234] This motion recognises the developmental and educational benefits of outdoor learning and signals cross-party support for expanding access across all schools.

At the same time, civil society advocacy, particularly through programmes led by NGOs, remains highly active. A notable example is the recently published manifesto by Northern Ireland Environment Link, which updates the priorities of the Education for Sustainable Development Forum and emphasises the need for stronger integration of environmental education and outdoor learning within schools and the revised curriculum.[233]

More widely, however, increasing pressures form barriers to young people's engagement with nature. Smartphone use is increasingly recognised as a barrier to children's outdoor engagement. Studies have found that smartphone use can disrupt children's outdoor experiences and often competes with outdoor activities, limiting children's engagement with nature.[238] A UK government feasibility study on smartphones and social media notes that digital devices shape children's daily routines and can displace time spent outdoors, contributing to more indoor, screen-based leisure patterns.[239]

In addition, unequal access to green and blue spaces, along with perceptions around safety, such as fears of traffic, crime, and antisocial behaviour, can prevent children from spending time in nature. Children's outdoor time is also shaped by their home environment, particularly the value their parents place on outdoor play and the extent to which parents themselves engage in outdoor activities.[240] Within schools, there are also barriers to encouraging engagement with nature, such as competing curriculum demands (particularly in higher grades), and issues such as teacher confidence and sufficient resourcing.

Table 3.5.3 The next generation – summary assessment of prospects of meeting targets and outcomes

Targets and outcomes	Prospects
By 2030, every child spends time in the natural outdoors at least once a week.	**Not assessed**

3.5.5 Opportunities for improvement

A range of third-sector organisations and government are actively promoting environmental education and outdoor learning and a lot of good practice already exists. However, there are clear opportunities to improve outcomes for engagement with nature for adults, young people and children.

Embedding education for sustainable development and outdoor learning within national education policy and the revised curriculum is central to this but this has not yet been fully realised. Outdoor education remains unevenly structured and insufficiently embedded within the education system.[241] For environmental education to be effective, it must be positioned as an integral and valued component of teaching and learning rather than an optional or supplementary activity.[242,243]

Support for outdoor learning is concentrated in early years and primary education, with curriculum pressures in post-primary phases acting as a barrier.[241] Moreover, education for sustainable development is acknowledged as a key element in the curriculum review, but is not yet integrated within the proposed framework. Without statutory requirements, delivery is likely to remain uneven across schools.[233] Strengthening collaboration between the Department of Education and DAERA would strengthen outcomes in this regard.

Additionally, effective implementation of environmental education and outdoor learning depends on sustained investment in teacher training, professional development, and resourcing support, particularly for under-resourced schools.[241] As highlighted in the Northern Ireland Environmental Link Manifesto, strengthening support for educators would help ensure that environmental education is integrated across all phases of schooling and not reliant on individual enthusiasm.[233]

The Education for Sustainable Development Forum operates as a coordination and networking body that brings together government departments, NGOs, educators, and community groups to support the development of environmental education. By facilitating communication, aligning messaging, and encouraging shared approaches, it has supported more coherent practice across the sector. DAERA should use existing programmes as the foundation for scaling up delivery. It should work with the Education for Sustainable Development Forum, to take strategic approach to embedding environmental education and outdoor learning in the school curriculum across all age groups. Strengthening this provision is essential for building the long-term behaviours and attitudes needed to drive the behaviour changes required to meet the goals set out across the EIP.

Meaningful progress depends on a stronger evidence base and clearer indicators for tracking how people engage with the environment. This is particularly lacking with regards to children. Current commitments, such as the expectation that every child spends time outdoors at least once a week, lack operational definitions and practical mechanisms for monitoring delivery. Without systematic data collection, it is difficult to assess implementation or identify gaps. Establishing consistent national reporting and generating more quantitative data would give policymakers the information they need to evaluate interventions, allocate resources effectively, and measure long-term change. Introducing a child-specific metric into the existing POMNI survey would offer a straightforward first step toward achieving this.

Recommendations for the next generation

Recommendation 1: DAERA should strengthen the evidence base by introducing clear indicators for monitoring targets and a child-specific metric within the People in the Outdoors Monitoring for Northern Ireland survey to improve understanding of long-term trends in connection with nature and inform targeted interventions.

Recommendation 2: DAERA should work with the Department of Education to integrate outdoor learning into the curriculum for all ages, setting clear expectations, supporting teacher training, and monitoring delivery across all age groups.

Table 3.5.4 The next generation – summary assessment

Past trends	There are currently no indicators or consistent monitoring to show how much time children in Northern Ireland spend outdoors or their engagement with nature, leaving a major gap in understanding their connection with nature.	**Not assessed**
Progress in the reporting period	A wide range of projects have helped advance work this year, but weak coordination, limited capacity, and the absence of clear targets or metrics continue to constrain efforts to increase children's engagement with nature.	**Mixed**
Overall prospects of meeting ambitions, targets and outcomes	Principles included in the curriculum reform, political support, and strong civil society advocacy are improving prospects for outdoor learning and environmental education. But competing demands for children's time, unequal access to green space, safety concerns, and pressures within schools limit prospects.	**Partially on track**
Robustness	There are gaps in the evidence base regarding children and young people's use of natural spaces and engagement with nature. The assessment draws on public data, stakeholder input and expert judgement.	

3.6 Conclusions

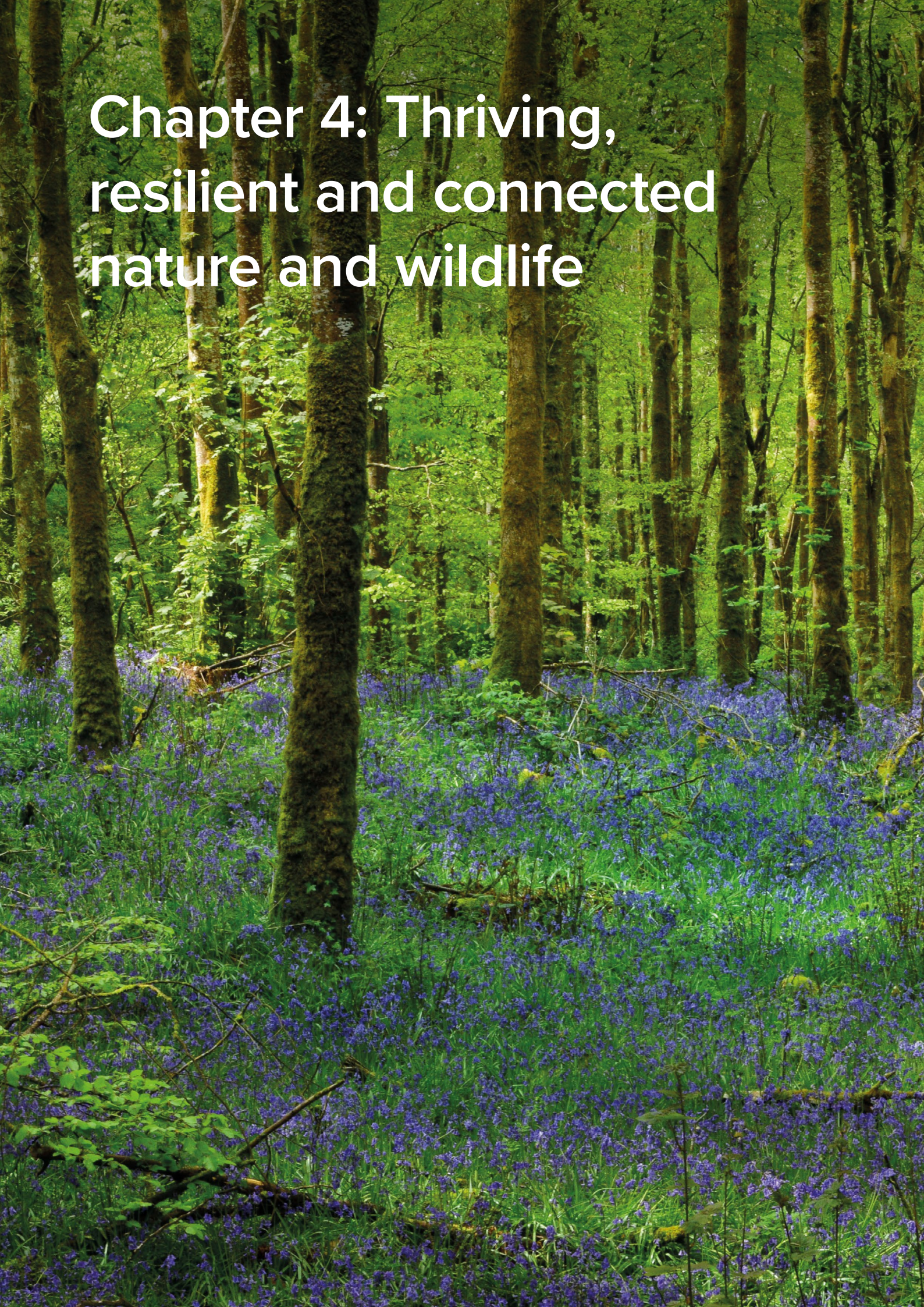
Engagement with nature is fundamental for public health, wellbeing, and the behavioural changes needed to meet the ambitions of the EIP. Northern Ireland's landscapes and seascapes hold significant potential to deliver benefits for people and nature, in both rural and urban settings. Yet this potential is limited by outdated and inadequate legislation and weaknesses in the planning system. Access to green and blue spaces remains uneven, with provision struggling to keep pace with housing growth. Barriers also extend beyond proximity and include quality, safety, and awareness. The low levels of connection to nature are concerning as experiences in the natural environment are central to forming bonds with nature and promoting pro-environmental behaviour.

While updates to the Greenspace NI Map and POMNI Survey are welcome, substantial data gaps remain, especially regarding children's engagement with nature and landscape and seascape quality which hinder understanding and action. To address this, DAERA needs to establish robust monitoring, clear indicators and targets.

Improving the outcomes for healthy and accessible landscapes everyone can connect with and enjoy requires strengthened legislation for ANOBs, improvements to the planning framework (including speeding up delivery of Local Development Plans), and better evidence and monitoring. Integrating spatial data into strategic development planning

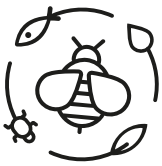
would help address inequalities in access to nature. Other opportunities should also be pursued through future phases of the Farming with Nature Scheme to expand access provision and support landscape scale projects. Embedding environmental education and outdoor learning consistently across schools, alongside the development of a child-specific metric would also help to support early engagement with nature.

Harnessing the support of NGOs and other delivery partners would be improved by better cross-government cooperation, clear strategies and appropriate resourcing. This is essential to realise the aim of widespread engagement not just with the natural environment but also with those processes and interventions that will improve the environment. This means the focus must expand beyond children and youth to achieve this.



Chapter 4: Thriving, resilient and connected nature and wildlife

Chapter 4: Thriving, resilient and connected nature and wildlife



4.1 Summary assessment

Protecting and restoring Northern Ireland's iconic species and habitats is crucial for building healthy, resilient ecosystems. It is critical to achieving the Executive's commitments to address climate change, sustainably grow the economy, and improve the health and wellbeing of society. Unless decisive actions are taken, more environmental crises, as seen at Lough Neagh, are likely to emerge and persist.

Northern Ireland continues to experience a significant loss of biodiversity. One in 12 species are at risk of extinction, while other species and habitats are in decline. The need for urgent action increases as pressures on biodiversity intensify and the impacts of climate change accelerate.

Progress in protecting and restoring nature on land and at sea is limited by ongoing delays in the development and implementation of key policies and a significant shortfall in practical, on-the-ground measures. Where policy has been developed, it has not been delivered at the pace and scale needed. The key constraints appear to be resources, funding, prioritisation and insufficient awareness of statutory obligations.

The prospects of achieving targets for nature are largely off track. Time is running out for interventions to contribute to meeting 2030 targets due to ecological lag times. Achieving targets depends on a wide range of policies and actions beyond the Environmental Improvement Plan where progress is also limited. On land, efforts are focused on policy development and review rather than delivery of actions. The lack of coherent delivery plans and funded measures, including addressing pressures, limits the potential of nature to be restored and reconnected. At sea, the targets are set close to or below current conditions, setting a trajectory of decline, and the prospects of achieving them are only partially on track.

The Executive can enhance nature's restoration by accelerating, broadening and connecting the delivery of actions that reduce pressures and bring about ecological recovery. There is a need for well-defined and sufficiently resourced delivery plans. These must be implemented urgently by both public and private delivery partners. Beyond this, long-term legally binding targets, with interim milestones, should be established to provide direction and accountability across the Executive. Harmonised and strengthened monitoring across policies and interventions would also support targeted and adaptive management.

Table 4.1 Thriving, resilient and connected nature and wildlife – summary assessment

Theme	Past trends	Progress	Overall prospects
Protecting nature on land	**Deteriorating trends dominate**	**Limited**	**Largely off track**
Protecting nature at sea	**Deteriorating trends dominate**	**Limited**	**Partially on track**
Natural capital	**Not assessed**	**Limited**	**Largely off track**

4.2 Context and commitments

Northern Ireland's biological and geological diversity, recognised both nationally and internationally, faces unsustainable pressures and is in decline.[89,244,245] Restoring and reconnecting the natural environment will be the foundation of long-term sustainable economic prosperity, human health and wellbeing, and resilience to climate change.[246,2] These are the priorities and obligations of the Executive. Urgent action is required to not just halt but to reverse losses and put nature on a path to recovery.[12,247,196]

In 2024, we undertook a systematic evaluation of the drivers and pressures influencing terrestrial and freshwater biodiversity.[89] Land use change and pollution – both closely associated with agricultural intensification – were identified as the predominant pressures contributing to biodiversity decline. Other factors, including the use and depletion of natural resources, climate change, and invasive species are also negatively impacting nature. The report concluded that urgent and effective action was required as further delays means problems continue to grow and addressing them becomes harder.

This strategic environmental outcome (SEO3) comprises three themes. They focus on reversing the decline of biodiversity, restoring the health and resilience of nature across land, in freshwater and at sea, and incorporating the value of natural capital and biodiversity into public decision making. The move from protection and conservation to the restoration, extension and connection of nature reflect both long-standing and recently established obligations and commitments.[248,249] These include both domestic and international targets and measures related to biodiversity, wildlife, protected sites, priority habitats and species, and addressing pressures that negatively affect nature.

Delivery of these objectives is closely linked to the targets and measures outlined in other established and emerging policy frameworks. They include the Peatland Strategy and delivery plan,[87,250] Forest Strategy,[251] Invasive Species Strategy and action plan,[252,253] draft Green Growth Strategy,[247] draft Nature Recovery Strategy,[196] the Blue Carbon Action Plan,[254] Marine Protected Area (MPA) Strategy for the inshore region,[255] and the draft Elasmobranch[256] and Seabird Strategies.[257]

There are also commitments related to the Kunming-Montreal Global Biodiversity Framework (GBF) established under the Convention on Biological Diversity. The Executive's translation of the GBF into domestic targets and commitments through the EIP is primarily focused on Target 3, known as the 30 by 30 target which aims to effectively conserve and manage at least 30% of land, freshwater and seas by 2030.[258]

The draft Nature Recovery Strategy, consulted on in January 2026, is to set the direction of Northern Ireland's contribution to the GBF. Its proposals focus on five strategic outcomes – protected nature and accelerated restoration; reduction of pressures; sustainable use of biodiversity through nature-friendly policies and practices; nature valued and mainstreamed across government and society; and building strong, integrated evidence and knowledge to enable action and reporting. It sets a 2032 mission to put nature on a path to recovery for the benefit of people and planet by conserving, restoring and sustainably using biodiversity.

Bringing into or maintaining the favourable condition of protected areas is a central aim of this SEO. This includes a target for 95% of terrestrial and freshwater Areas of Special Scientific Interest (ASSIs) features to be in or approaching favourable condition by 2030, and 85% of features within marine protected areas (MPAs) to be in favourable condition by 2030. This marks the first time in Northern Ireland that specific and measurable targets for

condition, as opposed to extent, of protected sites has been published for both land and at sea.[182] Alongside the 30 by 30 targets, protected areas provide a foundation for ecological connectivity and restoration.

Much of Northern Ireland's priority habitats and species occur outside protected areas on land and at sea. The EIP contains targets for landscape and seascape scale restoration of habitats and species. This includes the creation, expansion and restoration of 20,000 hectares of wildlife rich habitats, though the EIP does not specify habitat types. For species, key marine priority species are to be in recovery by 2030, an equivalent target is not included for terrestrial or coastal biodiversity.

Two habitat specific targets are included within the EIP. Woodland cover is to be increased to at least 9% (124,000 hectares) of land area by 2030, and then 12% by 2050 as per the long-term objectives of the 2006 Forestry Strategy.[259] Alongside this expansion, the EIP also commits to the conservation and sustainable management of new and existing woodlands. The Forests for Our Future Programme sets out measures to conserve and protect long-established semi-natural woodland and habitats of conservation concern.[260,261] All semi-natural peatlands are to be conserved or restored to healthy, functioning ecosystems by 2040. Additional policy details and measures to fulfil this EIP commitment are outlined within the Peatland Strategy to 2040, which establishes a framework for restoration, protection, and sustainable management.[87]

Achieving these targets and implementing the associated actions will play a crucial role in delivering on other targets and outcomes. The Climate Change Committee (CCC), for example, has advised that nature-based solutions are expected to deliver 8% of emissions reductions required to meet the fourth carbon budget (see Chapter 7).[54] Restoring 150,000 hectares of peatland by 2040 and expanding woodland cover to 15% by 2050 are necessary to fulfill statutory climate commitments.[54,237,262] Similarly, achieving Good Environmental Status (GES) under the Marine Strategy Regulations 2010 (see Chapter 5) requires reducing marine invasive species, and supporting the recovery of species, habitats and wider ecosystem functioning.

Without intervention to address land use change, pollution, natural resource use and extraction, climate change and invasive species, protecting and restoring nature will be much more difficult.[246,89] This SEO includes actions related to wildfires and invasive species.

Achieving targets for nature on land and at sea also depends heavily on actions across the EIP. These include measures and targets to reduce pressures including nutrient emissions, water quality, fisheries, resource consumption and waste management and climate change.

Regarding natural capital, the EIP sets out two targets relating to the development of assessment framework and the enhancement of reporting, data, and habitat mapping systems. These directly link to Target 14 of the GBF that aims to ensure the full integration of biodiversity and its diverse values in policies and national accounting across all levels of government and sectors.

4.3 Protecting nature on land

4.3.1 Key environmental trends

Trends in the abundance, distribution and condition of species and habitats provide useful proxies for the state of biodiversity and for tracking progress towards the protection and restoration of nature on land. The EIP Outcome Indicator Framework has five indicators for this purpose, and two indicators for monitoring pressures affecting nature. One of the indicators included within the Outcome Indicator Framework for the condition of terrestrial ASSIs does not enable a short-term trend assessment. We use additional data to provide a long-term trend for the condition of all ASSIs. A summary assessment is provided in Table 4.3.1 with further detail below.

Nature within protected sites

DAERA reports the extent of sites protected through statutory designations as a combined figure for terrestrial, freshwater, coastal and marine areas.[93] Between 2019 and 2025, there has been no change in the extent of protected areas with no new ASSIs, Special Protection Areas (SPAs) or Special Areas of Conservation (SACs) designated since 2018.[182]

Currently approximately 9.8% (140,374 ha) of land (including freshwater and coastal areas) is designated as a protected site, either as an ASSI, SAC or SPA. This comprises 394 ASSIs (110,438 ha, 7.7%), 58 SACs (42,903 ha, 3.0%) and 16 SPAs (93,828 ha, 6.6%).[182] Protected landscapes, constituting areas of outstanding natural beauty (AONBs), cover a further approximately 18.6% of land.[263]

The condition of protected sites is a primary indicator of the state of biodiversity in Northern Ireland.[11,93] DAERA also reports condition of features as a combined figure for terrestrial, freshwater, coastal and marine areas.[93] DAERA has not defined the land-ward limit of terrestrial sites, and changes in reporting methodology mean it is not possible to determine a short-term trend assessment of condition for terrestrial and freshwater ASSIs. Instead, by incorporating additional data, we provide a long-term trend assessment (2008 – 2025) for all ASSIs (Figure 4.3.1). This includes terrestrial and freshwater ASSIs in addition to sites with coastal and marine features. This approach aligns with the geographic scope of ASSIs which can be designated to mean low water, and the scope of the 95% target which does not distinguish terrestrial and freshwater ASSIs. Available data for ASSIs show that between 2008 and 2025, the proportion of assessed habitat and species features in favourable condition has declined from 61.7% to 50.2%.[182,264] For freshwater features within ASSIs only 34% are in favourable condition.[264]

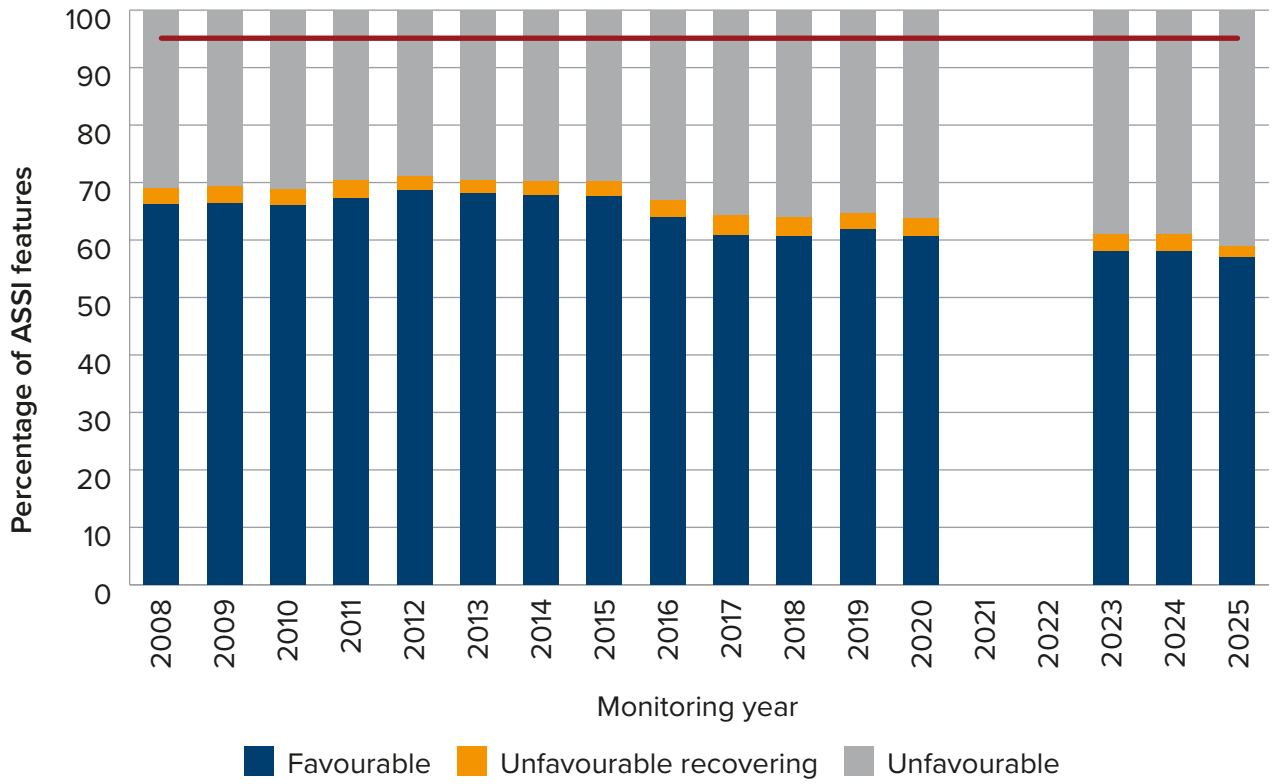


Figure 4.3.1 Variation over time in the condition of the assessed biological and earth science features of Areas of Special Scientific Interest. Data represent a six year rolling figure to 31 March of the reporting year and are taken from annual statistics reports for 2008–2020, with data for 2023, 2024 and 2025 taken from summary assessments. Reporting by DAERA does not provide for a like-for-like comparison for 2021 and 2022. The red line indicates the EIP target for 95% of features being in favourable or approaching favourable condition

Nature in the wider landscape

The deterioration and loss of habitats are evident across terrestrial and freshwater ecosystems beyond those within protected sites. There has been an 8% reduction in hedgerows between 1986 and 2007, and a loss of 12% neutral grasslands, 22% acid grasslands, 14% dense bracken, and 1% standing open water (lakes and ponds) between 1998 and 2007.[265,266] Urban and built-up areas have increased by 30% over the same period.[266] It is not possible to determine net changes across habitat types including urban areas.

In relation to species, birds provide a useful proxy for assessing biodiversity because their populations respond to environmental changes across food webs. They occupy a wide range of habitats, making them reliable indicators of ecosystem health.

Overall wild bird abundance is similar to that in the mid-1990s when monitoring began (Figure 4.3.2).[93,245] However, a steady, shallow decline has been observed since the mid-2000s. There is a sustained decline in species associated with farmland (43% since 1990) and a modest increase in woodland species (9.2% between 2018-2023).

However, for species with more specialised ecological requirements there has been an ongoing decline in the conservation status of regularly occurring birds on the island of Ireland, those in wetland habitats, and mixed conservation status of rare breeding birds found across Northern Ireland.[245,267-269]

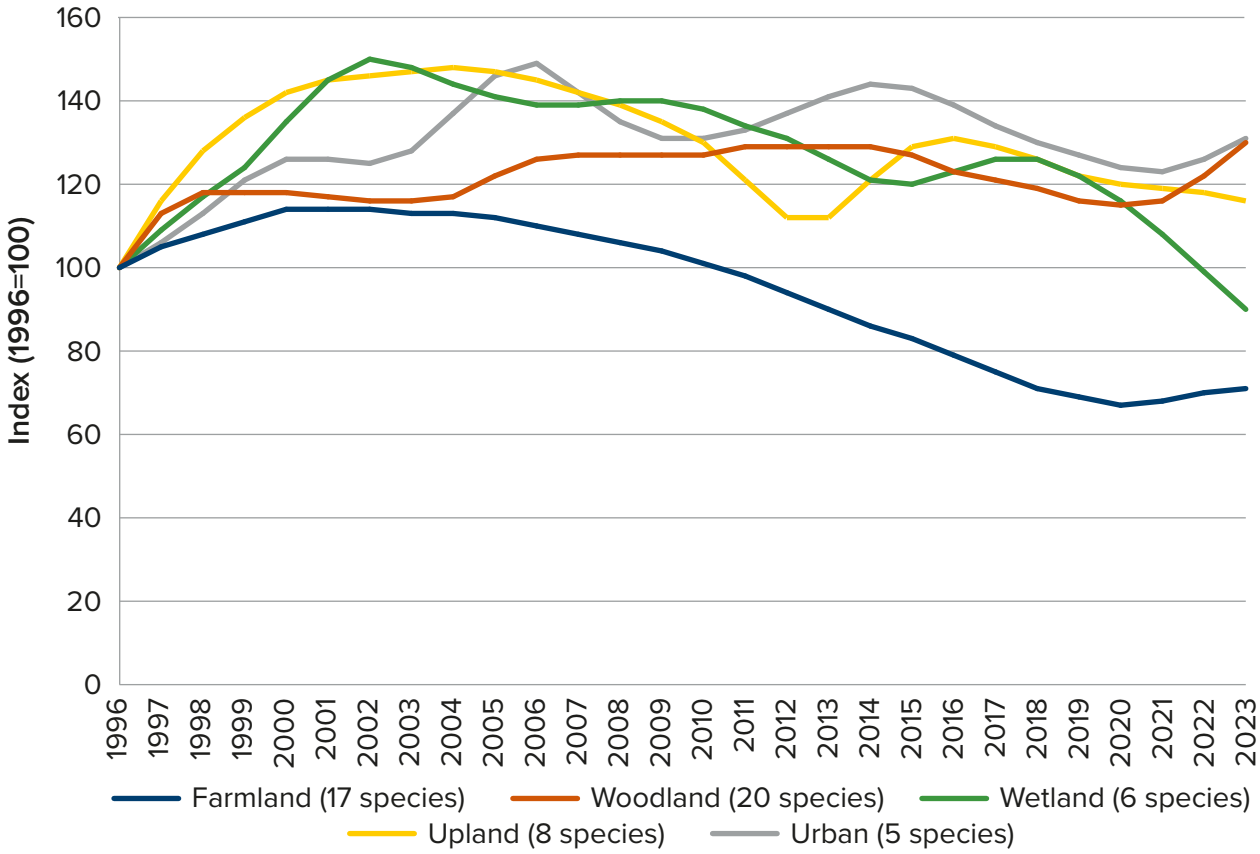


Figure 4.3.2 Wild bird populations in Northern Ireland by species type, 1996–2023

Species such as bats, otters, Atlantic salmon, freshwater mussels, aquatic invertebrates, and rare plants linked to bogs and heathlands are experiencing declines in conservation status.[270,245] Evidence also details declines in the distribution of bryophyte (mosses and liverworts) and flowering plant species.[245]

However, there has been an average 24% increase in the number of sites where invertebrate species were observed (distribution).[245] Species, including butterflies and moths, are showing signs of recovery due to active conservation efforts such as habitat restoration and management.[245,270]

Woodlands are a key habitat underpinning biodiversity, climate resilience, and other ecosystem services. From 2020 to 2025 woodland cover has increased by 1.8%, from 116,841 to 118,898 hectares, and currently accounts for 8.6% of land.[171,271,272] Although the increase represents a small proportion of total woodland area, it is statistically significant. Over the same period, annual woodland planting rose from 202 hectares to 502 hectares, a 148.5% increase.[11]

Despite 502 hectares of planting between March 2024 and 2025, woodland cover expanded by only 416 hectares.[273] This gap may reflect woodland losses, which can arise from natural disturbances such as storms, pests, disease or wildfire, as well as from land use change for development and agriculture.

In 2025, approximately 85% of new planting was delivered by the private sector and dominated by broadleaf species.[273] This reflects the influence of woodland grant schemes in Northern Ireland which are designed to address climate change, enhance biodiversity, deliver wider ecosystem services, and require compliance with the UK Forestry Standard (UKFS). This includes promoting diverse stands (diversity of tree species) with a high proportion of native broadleaf species which provide the greatest biodiversity benefits in most cases.[274]

Restocking (i.e. replenishing trees) declined by 8.3% between 2020 to 2025, indicating reduced regeneration of existing woodland and a potential risk to its long-term maintenance. However, restocking is not always appropriate, for example, where woodland is being removed to restore priority open habitats. The overall impact of pressures is difficult to assess, as Northern Ireland lacks consistent, centralised data on the ecological condition of its woodlands.[275]

While compliance with UKFS is mandatory for grant funding, certification is a voluntary process where woodland management is independently assessed against a sustainability standard. Certification is often used as an indicator for sustainable management, although uncertified woodland may also be well managed. Currently, 56% of total woodland area is certified. However, only 7% of private woodland is certified, compared with full certification across the public woodland estate.[271]

4.4% of woodlands fall within protected sites.[276] As of 2025, just 3% of woodland features within ASSIs were assessed as being in favourable condition, the lowest of any habitat type.[93,264]

Peatlands are a nationally important habitat, providing carbon storage, biodiversity, regulating water, and holding significant cultural value. They cover approximately 12% of land area, with a further 6% comprising highly modified peat soils.[87] Though most are degraded due to historic drainage, turf-cutting, afforestation, and agricultural pressures.[89]

Although limited, available data indicates that the condition of peatland habitats continues to decline, with associated species remaining under significant pressure.[270] An estimated 73% of peatland features within designated sites are in unfavourable condition, highlighting the scale of restoration required.[264,93]

Pressures affecting nature on land and in freshwater

The impacts of excess nutrient emissions are widespread and pervasive across terrestrial and aquatic ecosystems. In freshwater ecosystems excess nutrients, primarily phosphorus, lead to eutrophication, promoting algal blooms that deplete oxygen levels, harm aquatic life, and degrade water quality. Agriculture is the dominant source of nutrient pollution, with wastewater a significant contributor to pollution in waterways.[89]

Trends in nitrogen and phosphorous concentrations in rivers and in nutrient surpluses show a lack of progress over the last decade. There has been an increase in dissolved inorganic nitrogen enrichment indicating increased nutrient inputs to transitional and coastal waters (see Chapter 2).

The majority of priority habitats now significantly exceed their ecological thresholds for critical levels of nitrogen with 37 of 42 terrestrial habitats listed in Annex I of the Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild

fauna and flora (Habitats Directive) having nitrogen deposition listed as a pressure, and 83% ranking it as high.[270]

The threshold above which harmful effects of nitrogen deposition on ecosystems become apparent is known as the critical load. From 2003 to 2020 critical loads were exceeded for 100% of sensitive habitats before decreasing to 96.9% in 2021 (see Chapter 2).

For other pressures, including wildfires and invasive species there are no overall indicators. However, new species continue to be recorded. The Asian Hornet (*Vespa velutina*) and Quagga mussel (*Dreissena bugensis)* were both recorded for the first time during the reporting period. The demon shrimp (*Dikerogammarus haemobaphes)* was detected for the first time in lower Lough Derg in September 2025 and is likely to rapidly spread to Northern Ireland through the Shannon-Erne system.[277]

Deteriorating trends dominate for nature across the island of Ireland and the seas surrounding it, reflecting its position as a single biogeographical region. Deteriorating trends are echoed in the Republic of Ireland, where 85% of protected habitats and almost one third of protected species of flora and fauna are in unfavourable status. Over half of Ireland's native plant species are in decline and more than 50 bird species are of high conservation concern. Pressures on biodiversity are not decreasing and are similar across the island of Ireland, including changes in agricultural practices, such as intensification; pollution; the increasing spread of invasive species; and a changing climate.[278]

Table 4.3.1 Protecting nature on land – summary assessment of key short-term trends

Indicator	Indicator trend	Indicator time period
Area of land (or % land area) protected for nature	⊗	n/a
Condition of Features within Terrestrial ASSIs (includes freshwater sites)	⊗	n/a
Wild Bird Population in NI	↓	2020-2025
NI Woodland Cover	→	2020-2025
Peatland Conserved/Restored	⊗	n/a

4.3.2 Progress towards ambitions, targets and outcomes

The APR 2026 lists 21 actions and targets to achieve thriving, resilient and connected nature on land and in freshwater. The APR 2026 also reports that progress has been limited, with majority of actions not progressing, or progressing to new, unspecified timelines.[11] A summary assessment is provided in Table 4.3.2 with further detail below.

Overall progress in the annual reporting period for nature on land has been limited. Practical implementation of measures is particularly constrained. There is a dependence on, and delays to, the publication of overarching strategies or policies, processes of review. There is a lack of clear delivery pathways for achieving targets. Some actions set out within the SEO are duplicative, ambiguous, and inconsistent in their specificity and impact. Efforts to expand woodland and restore peatland are ongoing but are still not at the pace and scale needed. Critical pressures such as ammonia and nitrogen deposition, along with persistent challenges like invasive species, have not yet been effectively addressed.

Nature within protected sites

A thriving and resilient system of protected sites will underpin the EIP's vision of halting and reversing biodiversity loss. Protected sites, when effectively managed, have strong potential for increased species abundance, higher rates of species recovery, and improved quality of habitats.[182,279–282] They have also been shown to contribute positively to nature restoration in the wider landscape through spillover effects and supporting range expansion driven by climate change.[283–285]

The APR 2026 states that there are significant concerns around a lack of progress on the ASSI condition target and the 30 by 30 target. Progress towards these targets is interconnected. Designated sites, including ASSIs, serve as the backbone for effectively protecting at least 30% of land. The condition of terrestrial and freshwater sites is assessed through ASSI monitoring, which serves as an indicator of the overall effectiveness of site protection measures.

We are separately investigating DAERA in relation to possible failures to comply with environmental law in relation to the classification and adaptation of Special Protection Areas and in respect of their general duties to protect and maintain wild bird populations and to preserve, maintain and re-establish wild bird habitat.[286]

Protected site extent

Progress on increasing protected site extent, as a component of 30 by 30, has been limited. In 2025, we reviewed the implementation of the laws related to terrestrial and freshwater protected sites.[182] We found that these laws are not being well implemented, as demonstrated by the declining condition, and that progress in designating more sites has been slow and now effectively stalled.

Our review concluded that more land should be protected for nature. We made 14 recommendations, two of which related specifically to the designation of protected sites. We recommended that DAERA should restart the designation of protected sites and, in doing so, effectively engage with landowners. DAERA acknowledged that significant improvement is required in these areas.[287] However, there have been no new sites designated since 2018, leaving important places for nature unprotected.

The APR 2026 acknowledges that progress in expanding the area of land protected for nature remains constrained. Actions are largely focused on policy and criteria development. Of these, most are either subject to revised, unspecified timelines or rely on securing the necessary resources before work can be advanced.[11] It remains unclear how or when DAERA intends to progress further designations, as no information has been provided on this matter.

For example, the development of a framework and criteria for the 30 by 30 target relies on the establishment of a dedicated team, and no clear timeline has yet been set to do this. Additionally, Other Effective Area-based Conservation Measures (OECMs) remain undefined, with action on this progressing to new unspecified timeline.

The APR 2026 states that work is ongoing to develop an indicator for determining the area of land protected for nature. This is a necessary development and will require DAERA to define Other Effective Area-based Conservation Measures and other protected area types in the context of their contribution to GBF Target 3. DAERA has not yet clarified whether or how this work will build upon the existing evidence base.[288]

The initial phase of the Islands to Networks review has been finalised, but is unpublished.[11] It is intended to identify requirements for completing the protected site network. However, it is unclear how this review relates to previously identified sites that qualify for designation, and ongoing legal duties and guidance relating to site designation.[182,289]

There is also a lack of clarity regarding the future stages of the Islands to Network review, including the anticipated timeline for completion and delivery of identified actions. Other actions, including the designation programme, are contingent on the outcome of the Islands to Networks review. This work is not progressing.[11]

Protected site condition

The condition of protected sites continues to decline over the long-term. This is despite previous commitments, the EIP target to improve their condition, the legal duties to conserve and enhance ASSIs and to take steps to avoid habitat deterioration and species disturbance within SACs and SPAs.[182] The APR 2026 states that actions relating to 95% of ASSI features being in or approaching favourable condition are progressing to new, unspecified timeline. Actions to achieve the target have been delayed due to resource constraints and competing priorities.[11]

Many of the recommendations made in our review of the implementation of laws related to protected sites are aimed at improving the condition of protected features.[182] These address governance, funding and resourcing, monitoring, management and incentives, and regulatory tools and enforcement.

Although DAERA acknowledged that significant improvement is required in these areas, there has been minimal progress made on them during the reporting year.[287] Actions to address some, but not all were included within the draft Nature Recovery Strategy. However, their delivery is contingent on further development and on funding and capacity that have not been secured.

The APR 2026 lists the ASSI consenting regime as contributing to the condition of protected sites.[11] However, our report concluded that the effectiveness of this regime has been impacted by many factors. These include owners' and occupiers' lack of awareness or disengagement from the regime, reduced compliance monitoring, the absence of a register of protected site offences and corresponding enforcement action. In addition, the Northern Ireland Environment Agency (NIEA) has not used available regulatory tools to mandate proper management where necessary. We also found limitations to the enforcement of breaches including the lack of powers to issue civil sanctions.[182] No progress was made during the reporting period relating to these recommendations.

Our evaluation of the implementation of protected site laws found a lack of site-level management plans. These are a key component of improving and maintaining protected site condition. Unlike incentives, management plans should set out clear objectives for the site and the actions needed to reach them, while incentives provide a means of delivering the necessary management.

Previous targets were to have management plans in place for SACs in 1995, SPAs in 1996 and ASSIs in 1997.[290] Conservation management plans for 47 SACs have been published.[291] By the end of the reporting period, 11 SACs remain without plans, and no plans for the 16 SPAs have been developed. We have seen little evidence of a programme to implement the plans that have been developed. We also found that management agreements have not been used on land outside protected sites to address pressures that are arising from outside site boundaries.

Incentives to encourage the management that is necessary to conserve and restore protected sites include agreements under the Environmental Farming Scheme (EFS) Higher Level and Group Level and the Management of Sensitive Sites (MOSS) programme.[292,182] By area of land covered, the primary measure has been EFS Higher Level agreements, with group schemes supporting landscape scale management. Where sites are not eligible for EFS, DAERA uses agreements under the MOSS programme.[182]

Our report also concluded that land management incentives and the provision of advice are insufficient in terms of the quality and availability of incentives and the extent of land covered.[182] Just over half of the ASSIs eligible for EFS have areas overlapping with land subject to agreements under EFS management. Additionally, only a small number of one-year MOSS agreements have been entered into since the scheme was restarted.[182]

While initiatives such as MOSS and the EFS Group Level schemes have supported the delivery of environmental outcomes, agreements have not been as effective as required. For example, prescribed actions through EFS Higher agreements, although tailored for specific sites, may not fully address the needs and objectives of protected features, with data limitations exacerbating this issue.[182]

Causes of ineffectiveness include insufficient funding and advice, with policy shifts, such as the transition between schemes including to Farming With Nature (FwN), causing uncertainty and drop-offs in uptake. The new FwN scheme, which will replace EFS, will be key to delivery of the ASSI condition target, if sufficiently designed, resourced, spatially targeted and supported by advice.[11,293]

FwN remains under development, and the rates of uptake are not available. However, its implementation during the reporting period has progressed more slowly than anticipated, with roll out remaining limited.[11] This includes the constrained uptake of the Transition Scheme opened in 2025. We remain concerned about the scope of the Transition scheme which only addresses a subset of pressures and includes a restricted number and type of management options. The APR 2026 identifies resource issues and slow business case development as major reasons for the slow progress.

The scale of the MOSS programme remains insufficient. DAERA recognises the role of MOSS agreements in addressing gaps and supporting the management of habitats including woodland.[287] However only a handful of one-year MOSS agreements have been entered into in recent years.[182] The APR 2026 does not report on the uptake or availability of these agreements.

In their response to our report, DAERA agreed that increasing the scale of the MOSS programme will be a key tool to improving ASSI condition.[287] DAERA added that, subject to resources, it would scope and develop an enhanced MOSS programme including consideration of longer-term agreements and identifying priority sites. There is currently no evidence to demonstrate that this has been actioned, and there is no mention of MOSS in the draft Nature Recovery Strategy.

Our assessment found that public bodies responsible for protected sites must greatly improve, expand, and accelerate their management of onsite and offsite pressures.[182] That includes NI Water and the Forest Service who are responsible for large areas of protected sites.

We recommended that the public authorities that are responsible for the largest area of protected sites such as the Forest Service and NI Water should publish and report against annual targets showing how they will contribute to achieving the EIP target for ASSI condition.[182] There has been no progress in this area. The Forest Service Business Plan for 2025–2026 contained no targets or actions to improve protected site condition.[294,295]

We are not aware of NI Water setting a target for how it will contribute to the EIP target for ASSI condition. Although a review of NI Water's Biodiversity Action Plan began in 2021, there is currently no confirmation that this review has concluded.[182] Furthermore, the NI Water Biodiversity Strategy remains unpublished. This ongoing omission highlights a gap in strategic planning and delivery for protected sites by the authorities that most need to act.

The APR 2026 notes that management of protected sites – including development of plans and delivery of actions – has been funded through several mechanisms. They include external EU funds (INTERREG VA Habitats projects), the Heritage Lottery Fund, the Strategic Strand Environment Fund (£10.1m), the Water Quality Challenge Fund (close to £0.3m), and the Peatland Challenge Fund Competition (Environment Fund grant programme, with financial support for this fund from the Irish Government's Shared Island Fund Initiative). [296–302]

While it is encouraging to see that DAERA is actively seeking to secure financial support, there remains uncertainty as to whether these projects are sufficient and capable of achieving the desired outcomes. These funding opportunities are fragmented and lack a systematic and integrated approach. This observation is reinforced by the APR 2026 recurrent emphasis on resource and capacity constraints as significant barriers to progress.

Nature in the wider landscape

The creation, expansion or restoration of nature in the wider landscape – which represents the approximately 90% of land that is not designated as a protected site has been limited. Progress in this area is particularly constrained by the absence of clearly defined outcomes that specify expectations for species and habitats beyond woodland and peatland. The action to develop and implement nature recovery plans and programmes encompassing nature-based solutions, priority habitats, and species is progressing to a revised timeline without explanation.

While actions, such as the implementation of the All-Ireland Pollinator Plan 2021-2025 have been completed, it is difficult to determine how much they contribute towards achievement of the EIP targets.[303] Available evidence does not clearly demonstrate the overall impact. This makes it difficult to evaluate how individual initiatives collectively align with and support broader nature objectives.

The APR 2026 notes that preliminary steps have been taken to establish funding mechanisms aimed at achieving the 'nature positive' by 2030 objective. Efforts include the DAERA Nature Recovery Fund, successful acquisition of PEACEPLUS funding, and collaborative work with counterparts in the Republic of Ireland through Shared Island Funds.[304] While this is a positive step, challenges remain in ensuring funding for management or establishment of habitats and species is coherent and comprehensive in availability, scope, and longevity.

DAERA's proactive engagement with Shared Island Funds is welcome. Cross-border collaboration is critical given the transboundary nature of ecosystems and the need for coordinated ecosystem management. An all-island strategy will be critical to ensuring the effective restoration and functioning of shared natural environments.

Creating, expanding and restoring habitats

There is limited evidence of progress towards achieving the 2030 target of 20,000 hectares of wildlife rich habitat created or restored outside of the protected site network. The APR 2026 indicates that there has been no measurable advancement to date, although a workplan has been established. However, no details are provided regarding the contents of the workplan, nor does it clarify the scale or scope of the proposed actions.

The EIP lacks clarity regarding the definition of wildlife rich habitats and does not specify the mechanisms or actions needed to achieve the target. This ambiguity undermines the ability to assess progress and limits accountability. Clarity, such as is provided by Natural England's definitions and descriptions report, is required in relation to what constitutes a wildlife rich habitat.[305] Transparent criteria for measuring outcomes and evaluating success is also necessary.

In addition, there remains a lack of clarity on how actions taken will deliver on the 20,000 hectares. For example, the FwN landscape scheme is expected to be a key delivery mechanism for this target given that approximately 77.5% of land is used for agriculture.[306] Yet the implementation of this scheme has been limited, raising questions about its effectiveness and reach. Without this clarity, it is difficult to determine whether the intended outcomes are being realised or how individual actions are contributing to the overall ambition of habitat creation or expansion.

The Living Map of Northern Ireland offers a valuable foundation for identifying habitat types and areas where targeted interventions could have the greatest impact. Likewise, the collaborative work carried out by Ulster Wildlife, the National Trust, RSPB NI, and the Woodland Trust supported by the Heritage Fund has resulted in the creation of Habitat Networks in Support of a Northern Ireland Nature Recovery Network Mapping Framework.[307] Similarly, mapping undertaken by the Woodland Trust has identified areas for the expansion and creation of woodland habitat.[308]

While this list is not comprehensive, it demonstrates that supporting evidence is available. Together they provide robust evidence base that supports this target, as well as broader nature recovery objectives.

Woodlands

Progress towards the EIP targets of increasing woodland cover to at least 9% by 2030 and 12% by 2050, as established in the Forest Strategy, has been limited.[259] Progress has also been limited on the commitment to deliver the Forests for Our Future Programme, which sets out to establish 9,000 hectares of new woodland by 2030 while ensuring sustainable management and conservation of new and existing woodlands and long established semi-natural woodland and habitats.[171,260,309]

Based on the programme's objectives, approximately 4,500 hectares of new woodland would be expected to have been created between 2020 and 2025. However, at the programme's halfway point in 2025, only 2,057 hectares of new woodland has been recorded.[273] This represents less than a quarter of the overall target and highlights a significant gap between current delivery and programme ambitions.

The APR 2026 reports that 427 hectares of woodland were planted through the Forest Expansion Scheme and Small Woodland Grant Scheme during the reporting period.[11] Most new woodland was created through public grant funding. These schemes are primarily delivering native broadleaf woodland in order to maximise biodiversity, wider ecosystem benefits, and mitigate climate change (see Chapter 7).[274]

An additional 75 hectares was afforested by Forest Service on land under its management.[11] Areas planted without grant funding are underreported, thus the figures are likely an underestimate of planting activity. The APR 2026 identifies low uptake of grant funding, including the Small Woodland Grant Scheme and Forest Expansion Scheme, as a key barrier to meeting woodland expansion targets.[11]

The Small Woodland Grant Scheme supports small-scale woodland creation from 0.20 hectares. It provides an annual premium over a 10-year period to help integrate trees into existing farm businesses.[310] During the reporting period, the scheme opened for application from December 2024 to January 2025.[311] Evidence of uptake remains limited, and the short application window is likely to have constrained participation, particularly given that landowners need time, advisory support, and financial certainty to engage confidently in woodland creation.[312]

The Forest Expansion Scheme is available for the expansion of woodlands of 3 hectares or larger. The scheme operates on a rolling basis, with applications required between approximately June and November for the following planting season.[313] There is limited evidence of scheme uptake.

The Tree Planting Taskforce was established in November 2024 to improve coordination between government and stakeholders across the UK to increase tree planting.[314] However, it is unclear what impact it has had. Greater transparency is needed to assess progress against woodland targets.

Woodland expansion is also facilitated through agri-environment schemes. This includes existing EFS agreements, which continue to support tree establishment across agricultural land.[261] The FwN Transition Scheme, which replaces EFS agreements, opened for applications in June 2025. It includes actions to expand tree cover by planting new hedges, farmland trees, and woodland buffer strips along watercourses. Unlike the Small Woodland Grant Scheme and Forest Expansion Scheme, the FwN Transition scheme does not fund woodland blocks; instead, it contributes to increasing tree cover and improving ecological connectivity.

It is unclear how much of the £4.7 million committed to the FwN Transition scheme has been directed towards woodland habitats.[315] In addition, there is still no dedicated funding mechanism for natural colonisation, limiting lower-cost opportunities to expand woodland cover and enhance connectivity.[316,317]

Whilst Northern Ireland lacks a centralised dataset to monitor and record woodland condition, available evidence demonstrates that there been limited progress in addressing pressures affecting woodlands.[316] This includes the spread of pests and diseases, nutrient pollution, browsing deer and climate change.[308] For example, TreeCheck is supposed to provide an online platform for reporting tree pests and diseases across the island of Ireland, yet it is not available in Northern Ireland for operational reasons.[318,319]

DAERA are undertaking a Light Detection and Ranging (LiDAR) survey of Northern Ireland. It is anticipated that all four survey zones will be completed by 2026, providing amongst other data, an assessment of woodland extent.[275,320]

There has also been limited progress in delivering the sustainable conservation and management of new and existing woodlands. While publicly funded woodland creation must comply with UKFS standards, overall certification rates remain low, particularly in the private sector. This raises questions about the consistency of sustainable management practices. Barriers such as the cost of certification and limited incentives for landowners are known to constrain uptake.[321]

There is still a notable shortfall in funding for woodland management, including MOSS agreements. This limits the implementation of effective management actions on the ground. Restocking levels also continue to decline, despite the availability of funding for restocking through the Woodland Investment Grant.[182,261,322]

The APR 2026 notes the protection of individual trees and woodlands through the issuing and enforcement of Tree Preservation Orders. The NI Ombudsman identified limited enforcement activity and insufficient public information as factors that may undermine confidence in the commitment to or effectiveness of tree protection.[323] There were 369 tree protection breaches reported between 2019 and 2022. However, only one resulted in enforcement action being taken and none led to prosecution.

The NI Ombudsman's report made 26 recommendations. These included the need for stronger governance, clearer guidance, improved transparency, more consistent enforcement and better data and monitoring. They also recommended the development of local council tree strategies to strengthen the effectiveness of Tree Preservation Orders. Our assessment found that while some local councils have begun developing tree strategies, there remains limited evidence of wider progress to implement the recommendations.[324,325]

Ancient and long-established woodlands support unique, centuries-old ecological communities and are considered irreplaceable, but they account for just 0.04% of land area.[245] In January 2025, a consultation was launched on a proposed private members bill aiming to strengthen legal protections for the oldest and most significant trees, as well as ancient and long-established woodlands.[326]

The Ancient Woodlands Ireland Project is a cross-border initiative being taken to strengthen evidence gaps and update inventories on ancient and long-established woodlands. Interim outcomes have identified more than twice as many long-established woods than initially estimated. Once complete, it will support prioritisation of restoration and management of sites.[327,328]

Peatlands

Progress towards having all semi-natural peatlands conserved or restored to healthy, functioning ecosystems by 2040 has been mixed. Although a comprehensive policy framework is now in place, the current rate of delivery is insufficient to achieve the EIP target. The APR 2026 highlights that staffing vacancies, competing pressures, and limited alignment between environmental and agricultural policies has limited progress.

The Northern Ireland Peatland Strategy to 2040, published in September 2025, outlines key actions intended to advance the conservation, restoration and sustainable management of peatland habitats.[87] Measures include interim objectives such as phasing out of peat use in horticulture by 2030, alongside a significant increase in restoration initiatives. The Strategy builds on the ambition of the EIP's 2040 peatland target, extending the scope of conservation and restoration measures beyond semi-natural peatland to include intact peatlands, degraded peatlands, and peatland soils.

We welcome the publication of the Peatland Strategy Delivery Plan (April 2026 – December 2027). However, it was slightly delayed and does not include a reporting framework as committed to in the Peatland Strategy. While this indicates that action is being taken, progress in translating strategy into delivery remains slow, and the absence of a reporting framework weakens accountability and increases delivery risk.

The Strategy and the Peatland Strategy Delivery Plan also aim to restore 150,000 hectares of degraded peatlands by 2050 to meet net-zero targets, creating the potential for further carbon sequestration and biodiversity benefits.[250] However, updated guidance from the CCC advises that this level of restoration (equivalent to 63% of peatlands) should now be achieved by 2040 indicating that a faster pace of restoration will be required to align with net-zero pathways. Despite being published after the guidance, the Delivery Plan retains the 2050 target.[54,250]

Key policy measures outlined in the Delivery Plan remain at an early stage. For example, measures to restrict peat sales and phase out commercial peat use are limited to consultation and evidence gathering, with no clear implementation timelines.

The roll out of a peatland asset register to map peatland distribution, condition, and restoration potential has also been delayed. The APR 2026 and Delivery Plan confirm that it is still in development, but it remains unclear when this will be operational. This will be essential for spatially targeting interventions, monitoring progress and future accountability.

DAERA informed us that 1,337 hectares of peatland were restored between 2014 and 2024. Restoration activity has increased in the reporting year but progress remains slow and far below that needed to achieve the 2040 targets. Currently, comprehensive annual data on restoration activity are not publicly available and the absence of consistent monitoring limits the ability to assess progress towards the target.

We also welcome the Forest Service Business Plan's commitment to identify and restore peatland on the Forest Service Estate, with a target of 400 hectares by March 2026.[329]

Delivery of peatland restoration is being supported through a combination of cross-border and domestic funding. Government-funded projects delivered 453 hectares of restoration in 2025, a notable increase from previous years where less than 100 hectares per year were delivered in 2023 and 2024.[11,330]

Funding for peatland restoration is secured until 2028, with the APR 2026 expecting this to deliver around 12,000 hectares of restoration.[40] This includes contributions from projects such as PEAT+, funded through PEACEPLUS and led by Ulster Wildlife, and commits €19.2 million. In parallel, £2.7 million has been allocated through the Peatland Challenge Fund to five projects over the period to 2028. This forms part of the Cross-Border Peatlands Restoration Programme under the Shared Island Initiative, with the fund operating as a delivery mechanism alongside Northern Ireland's Environment Fund.[331,332]

Addressing pressures

The APR 2026 indicates that no progress has been made to develop action plans to address the pressures on nature specifically identified in the EIP. These include nutrient pollution, wildfires, invasive species and climate change.

Issues such as nutrient pollution remain a persistent challenge (see Chapter 2), and progress regarding climate mitigation and adaptation is insufficient (see Chapter 7). There was, however, some progress in addressing wildfires. The Wildfires in Northern Ireland Strategic Framework 2025-2030 was published following consultation in 2023, and the accompanying action plan was published in April 2026.[333]

Work towards reinstating a strategic cross-border invasive species programme is underway through the Shared Island Biosecurity and Invasive Species Initiative. The initiative was established in 2024 and provides the framework for an all-island partnership approach between the Northern Ireland Environment Agency and the National Parks and Wildlife Service and National Biodiversity Data Centre. Areas of collaboration include risk assessment, trend analysis, contingency planning, coordination across shared river basins, pathway analysis and action plan development, engagement and citizen science. The second annual Shared Island Biosecurity and Invasive Species Forum was also held, providing an opportunity for stakeholders to coordinate invasive species action across the island of Ireland.

Other ongoing invasive species activities included responses to new incursions, control activities, and raising awareness. The successful eradication of ferrets from Rathlin Island is a world first and may already be benefiting biodiversity (Box 4.1).

Box 4.1 Rathlin Island LIFE Raft project – a world first for ferret eradication

Islands are often important havens for endangered species. Rathlin Island is designated for its nationally and internationally important bird populations, along with other rare habitats and species.[334–339] However, invasive predatory rats and ferrets have driven significant declines in many of the island's seabird populations and other native species. They also cause issues for the island's local community.

Since 2021, the LIFE Raft project has sought to restore seabird colonies and benefit the community by eradicating rats and ferrets from the island and introducing measures to prevent their return. This large, multi-partner project has involved extensive monitoring, research, community engagement, and control activities.[340] In December 2025 the project was extended and received additional funding from DAERA to ensure the complete eradication of rats.[341]

In March 2026 the ferret eradication was declared a success, with no ferrets recorded since October 2023. This represents the world's first successful ferret eradication on an inhabited island.[342] Monitoring for rats will continue, with the aim of achieving rat-free status in the coming years.

The project may already be generating benefits. In 2025, Manx Shearwaters were observed breeding on the island for the first time in decades, having once bred there in considerable numbers. The success of the project could pave the way for more invasive predator eradications on islands in Northern Ireland.

A large component of the £4.5 million funding for the LIFE Raft project came from EU LIFE.[343] With EU LIFE funding in the UK drawing to a close, and in the absence of similar successor funds, funding sources for future large-scale environmental projects are more limited.

Table 4.3.2 Protecting nature on land – summary assessment of progress over the annual reporting period towards meeting targets and outcomes

Targets and outcomes	Progress
By 2030: At least 30% of land and freshwater protected, connected and managed for nature.	Limited
By 2030: 95% of the features underlying the designation of ASSIs to be in, or approaching, favourable conservation condition.	Limited
By 2030: Create or commence restoration of 20,000 ha of wildlife rich habitat outside the protected site network (to support nature recovery networks and nature-based solutions).	Limited
All semi-natural peatlands are conserved or restored to healthy, functioning ecosystems by 2040.	Mixed
Increase NI woodland cover to at least 9% (124,000 hectares) by 2030 and 12% woodland cover by 2050.	Limited

4.3.3 Prospects of meeting ambitions, targets and outcomes

Although there are encouraging signs from specific conservation initiatives, the prospects of meeting ambitions for nature on land and in freshwater are largely off track. A summary assessment is provided in Table 4.3.3 with further detail below.

Overall prospects are hindered by persistent delays and the limited scope, speed and scale of conservation and restoration activities and pressure mitigation measures. Insufficient resources and funding, and inadequate governance and organisational structures across public authorities limits the integration and delivery of needed policies and actions. This has resulted in a gap between the strategic intent of the Executive and the delivery of effective action, thereby reducing the likelihood of achieving nature objectives.

The publication of the draft Nature Recovery Strategy for Northern Ireland to 2032 is a positive step, offering additional policy detail to achieve nature-related objectives, including those within the GBF. The draft Strategy's mission to halt and reverse biodiversity loss, and the objective of mainstreaming nature recovery across government and increasing levels of funding for restoring nature is to be welcomed.

As we set out in our response to the consultation, the finalised Strategy should move from planning and strategic thinking towards delivery and implementation at scale and pace.[344] The Strategy should incorporate outcome-focused targets and objectives to actively halt and reverse declines in species abundance. In addition, it should provide clear guidance on how proposed actions address all pressures and collectively contribute to achieving objectives.

The draft Nature Recovery Strategy could be further improved by drawing public bodies' attention to their legal duty under the Wildlife and Natural Environment Act (Northern Ireland) 2011 to have regard to the Strategy in complying with their biodiversity duty, and by explaining how they should do so. To assist with this, where appropriate, the Strategy should assign actions to specific public bodies.

There is a lack of clarity regarding the alignment between the actions proposed in Executive-level strategies and local or area-based plans. For example between the EIP and the Newry, Mourne and Down District Council's Biodiversity Strategy 2024-2030, or Translink's Biodiversity Strategy and Action Plan 2030.[345,346] Greater transparency is needed to demonstrate how local actions coherently stack up to meet the Executive's objectives for nature at a national scale.

The recent allocation of €20.8 million in PEACEPLUS funding for the restoration of priority species and habitats across 23 sites in Northern Ireland and the border counties of Ireland represents a substantial advancement. Delivery by the nine partner organisations, led by RSPB NI, will bring together collective expertise and increases the likelihood of achieving a range of nature conservation objectives.[347]

Nature in protected sites

Protected site extent

The prospects of having at least 30% of land and freshwater protected for nature by 2030 is largely off track. Considerable challenges persist. These include the continued absence of a programme for site designation, systemic and ongoing shortfalls in funding and resourcing,

constraints to inter and cross-departmental working, and insufficient engagement with landowners and occupiers.[182,11]

Actions within the EIP and the draft Nature Recovery Strategy are largely focused on the development of policy frameworks and criteria for determining what qualifies towards the 30%, rather than designation. This focus risks overlooking the need to designate more areas and could result in the duplication of work.[182,348,286,288]

DAERA has ongoing legal duties to designate protected sites where the relevant criteria are met. Guidance published by DAERA recognises that it 'must adapt the network where necessary, given that the abundance and distribution of habitats and species within the network might evolve over time'.[289] It is therefore not possible to complete the network, as the EIP seeks. An ongoing programme for reviewing the network and designating sites will be necessary, rather than a single, isolated effort.

Where additional policy clarity is required for this target, DAERA should build upon rather than replicate existing work. For example, progress has been made in establishing a clear definition of designation types that count towards the 30%. The Protected Areas Working Group of the International Union for Conservation of Nature National Committee UK assessed more than twenty types of designation of land and sea for biodiversity conservation against the 30 by 30 criteria including landscape designations in Northern Ireland.[288] Adopting and improving such work where necessary would be more resource efficient and should ensure a robust and consistent approach with other UK devolved administrations.

Protected site condition

The deteriorating condition of ASSIs exacerbates the gap between the current status of protected sites and the required level. The prospects of having 95% of ASSI features in favourable condition or approaching favourable condition by 2030 is largely off track

The ecological recovery timeframes for protected site features means that measurable improvements will emerge gradually over months to years. It also means that new actions are likely too late to substantively influence the prospects of achieving 2030 condition target for ASSIs.

Nonetheless, implementing a series of targeted initiatives at the required scope, scale and pace has the potential to enhance long-term outcomes. This includes directly addressing the key pressures such as nutrient pollution and habitat loss, effective management within and outside of sites, and ensuring sufficient incentives for nature-friendly farming and other land management practices are widely adopted.

The publication of a further two management plans since the reporting period is a welcome step. This increases the total to 49 plans for 58 SACs. However, nine SACs are still without plans. Progress on implementation remains insufficient and there is now an urgent need to speed up improvements to site condition. Meanwhile, progress in developing and publishing tailored plans for other designated sites remains slow. This creates a gap in understanding of what management measures are needed for individual sites to improve their condition.

Persistent deficiencies in the design and implementation of incentives hinders improvements. A significant constraint is the ongoing uncertainty regarding the resourcing and delivery of FwN schemes and MOSS agreements for both on-site and off-site

management. Based on current trends and evidence, their development, uptake and effectiveness will not be at the pace and scale needed to meet conservation targets.

The Peatland Strategy Delivery Plan includes a timeframe for the development of further FwN strands and development of peatland registry. Implementation of actions could enhance prospects for peatland features, however, the implications for overall protected site feature condition are uncertain.

The continued absence of land eligibility assessments and a lack of proactive engagement with owners and occupiers of protected sites, also hinders the spatial targeting and successful delivery of management incentives.

Without specific actions to resolve known gaps in implementation of protected site laws, and strengthen regulatory provisions where necessary, the prospects of achieving targets for protected site condition will remain largely off track.

Nature in the wider landscape

Creating, expanding and restoring habitats

The prospect of achieving the 20,000 hectares of wildlife rich habitat target is largely off track. An assessment of prospects would be strengthened by better defined outcomes, the availability of clear delivery pathways and improved national monitoring data for habitats beyond peatland and woodland.

By developing robust, transparent definitions and comprehensive descriptions, DAERA would not only clarify expectations for stakeholders but also enhance the tracking of progress towards targets. This presents a valuable opportunity to refine spatial targeting, ensuring resources are directed where they are most needed, and to strengthen the effectiveness of actions taken. Clear and consistent criteria would improve prospects of achieving this target. In addition, they would support better accountability, foster collaboration, and enable adaptive management, thereby driving more impactful outcomes for biodiversity and habitat restoration.

Woodlands

Evidence from the Woodland Trust indicates that 18% of Northern Ireland's land is highly suitable for woodland creation.[316] However, the prospects of meeting woodland cover commitments remain largely off track.

As of March 2025, woodland covers 118,898 hectares, leaving a shortfall of 5,102 hectares to meet the EIP 2030 target of 9% woodland cover. This equates to an average of 1000 hectares of new woodland creation per year between 2025 and 2030. Meeting the Forests for Our Future commitment would require a higher annual rate of woodland creation of around 1,317 hectares per year over the same period.

There is no evidence that these rates will be achieved. Current ambitions fall well below what is required. The 2025-26 Forest Service Business Plan commits to increasing new woodland creation to an average of 600 hectares per year to 2027, which is significantly below both benchmarks.[329]

Looking beyond these commitments, the CCC advised that Northern Ireland should reach 15% woodland cover to meet the 2050 net-zero target, requiring annual planting rates

to peak at 2,800 hectares by 2036 (see Chapter 7).[54] Although evidence indicates that sufficient land is available to meet this level of expansion, current planting rates remain far below the trajectory needed.[349]

The development of a Strategic Outline Business Case, as reported in the APR 2026, is a welcome step towards enabling higher afforestation rates during the second carbon budget period from 2028 to 2032.[40] However, its scope, timing, and alignment with other delivery mechanisms remain unclear. Overall, persistently low planting rates, fragmented and constrained funding and scheme uptake, and ongoing challenges with restocking capacity and woodland loss continue to limit progress and reduce the prospects of meeting 2030 commitments and longer-term net zero requirements.

Achieving the required increases in woodland creation will require strengthened technical capacity. The Forest Service Business Plan commitment to establish a Resource Capacity and Capability Sub-Committee and expand professional and technical forestry recruitment and training should support the availability of skilled staff and the provision of qualified advice to landowners.[329]

The APR 2026 commitment to assess woodland creation delivered outside Forest Service schemes is also welcome. However, greater transparency is needed for publicly funded schemes, including agrienvironment options, to evidence their contribution and levels of uptake.

A persistent lack of grant uptake remains a major barrier to woodland planting and management activities. Increasing the type and amount of resourcing and funding, along with extending the application windows for schemes including Small Woodland Grant Scheme, Forest Expansion Scheme, and FwN Transition Scheme, should enhance uptake. This would improve the prospects of meeting woodland cover targets.

The announcement of a Tree Planting Action Plan, which was due for roll out in April 2026 is a positive development. It intends to use a co-design approach to address delivery barriers.[196,349] However, further clarity and evidence are needed on the specific measures the plan will introduce and how effective these are expected to be in overcoming current constraints to grant uptake. Without this, its potential to meaningfully improve prospects remains uncertain.

The prospects of sustainably managing and conserving woodlands remain largely off track. Current evidence does not yet demonstrate a level of progress consistent with the aim of the Forests for Our Future Programme.

When completed, the LiDAR survey should improve the targeting of woodland expansion and management. The survey should significantly improve evidence-led decision making, providing more accurate mapping of woodland extent, structure and condition. This includes identification of small woodlands and trees outside woodland, including hedgerows, farmland trees and urban canopy; and strengthening monitoring and management of connected habitats across the landscape.[320] It will complement existing monitoring, such as the Woodland Register, which records woodlands of at least 0.1 hectares.[350]

Addressing exceedances of nutrient levels is largely dependent on policies such as the Nutrients Action Programme and forthcoming Ammonia and Clean Air Strategies (see Chapters 2 and 5). While measures such as tree belts and shelterbelts can help intercept

emissions, evidence indicates they may also negatively alter soil chemistry and microbial communities.[351] Without effective cross-sector action to reduce emissions at source, the ecological condition of woodlands remains threatened, limiting viability and credibility of expansion and biodiversity targets.

Data gaps and the absence of comprehensive, high-quality information continue to limit the prospects of achieving woodland creation and management targets. For example, the lack of accurate and representative data on deer populations restricts the ability to address browsing pressures, which threaten tree establishment and natural regeneration.[316] Similarly, the lack of online reporting platforms such as TreeCheck, or UK equivalents like Tree Alert, reduces opportunities to identify, track, and respond to emerging threats. A centralised dataset on woodland condition and associated pressures would help address these gaps.

Climate change is expected to intensify pressures by accelerating the spread of pests and pathogens and increasing the frequency of extreme weather events. This further reduces woodland resilience and underscores the need for improved monitoring and long-term sustainable management aligned with the principles of the UKFS and the commitments set out in the Forests for Our Future Programme.[352]

Peatlands

The prospect of meeting the target to conserve and restore all semi-natural peatlands to healthy, functioning ecosystems is largely off track. However, actions taken so far provide a foundation for further progress.

The Peatland Strategy Delivery Plan, while welcome, offers limited scope to improve prospects because it only covers the period to the end of 2027. This leaves uncertainty on how delivery will be scaled up beyond this point, particularly in relation to securing long-term funding for increased restoration.

Without a Peatland Asset Register, it is difficult to identify priority areas for action, target investment effectively, and monitor progress. Actions outlined in the Delivery Plan suggest progress will be made in identifying and mapping peatland extent and condition. However, a timescale for the operationalisation of the Asset Register has not been provided. The roll out of the LiDAR survey may help to address these gaps.

There is a lack of data on the extent and condition of semi-natural peatlands, though most are understood to be degraded, and reported restoration activity to date has been minimal. The Peatland Strategy Delivery Plan commits to 4,500 hectares of peatland on the road to recovery by December 2027, which falls well below the levels required to meet wider policy ambitions, including restoring around 150,000 hectares by 2050. This is also below the draft Climate Action Plan's interim milestone of 10,000 hectares by 2027, highlighting the need for significant increase in delivery rates.[28] The APR 2026 reports that a strategic outline case has been developed to support delivery of this 2027 target, which is a positive step. Current funding is outlined until 2028 and aims to restore around 12,000 hectares of peatland.[40]

Despite recent progress, the prospects of meeting the 2040 peatland target remain constrained without addressing the challenges outlined in the APR 2026. These include acute staffing vacancies, competing pressures, monitoring and reporting limitations, and risks posed from poorly aligned environmental and agricultural policy. In addition, significant additional financial investment is needed post-2028 to achieve restoration commitments.

Addressing pressures

The prospects of addressing the threat of wildfires to nature are partially on track. The Wildfire Action Plan published in April 2026 sets out actions relating to governance and delivery, prevention, preparedness, response, recovery, enforcement, and funding and resources. Actions to review existing burning legislation and enforcement powers are particularly welcome given that many wildfires are started deliberately.[353]

These actions will be delivered by partners from the Strategic Wildfire Group, Wildfire Stakeholder Forum, local wildfire groups and stakeholders. Timely implementation of these actions will be contingent on adequate resourcing and capacity of delivery partners.

Additionally, DAERA has now appointed a team of international wildfire experts to develop wildfire management plans for three high-risk areas: the Mournes, Antrim Hills and Cairn/Glenshane Pass.[354,355] Timely development and implementation of the management plans would improve prospects (Box 4.2).

The prospects of addressing the threats posed by invasive species are largely off track. The actions in the EIP are not comprehensive and the pace of progress points to a lack of urgency and insufficient resourcing. The draft Nature Recovery Strategy includes actions to develop a new Invasive Species Strategy and an All-Island Invasive Species Management Plan and associated measures by 2028.

The draft Nature Recovery Strategy also includes an action to reduce the coverage of widely spread invasive species by 2030. While welcome, priority should be given to preventing the introduction and establishment of invasive species, through pathway management, surveillance, early detection and rapid response.[356] Action in these areas would contribute towards a more comprehensive approach. Work is underway on the design of a shared island monitoring and surveillance programme, which would improve prospects if implemented and adequately resourced.[357]

The re-establishment of cross-border collaboration on invasive species via the Shared Island Biosecurity and Invasive Species Initiative is welcome. However, while the initiative set out to align current and future pathway action plans at an all-island scale, this is yet to be confirmed. The two jurisdictions are currently developing plans independently. The development of a new invasive species strategy for Northern Ireland provides an opportunity to improve coherence if strategic cross-border coordination and alignment is incorporated. An all-island marine invasive species strategy is already in development.[358] However, these developments are largely replacing and updating what was already developed and implemented under the Invasive Species Ireland initiative. The halting of funding for this initiative resulted in a decade of less action in which the challenge of addressing invasive species continued to grow.

The prospects of addressing other pressures on nature such as nutrient pollution and climate change are also largely off track (see Chapter 2 and Chapter 7). This diminishes the likelihood of achieving nature objectives.

Box 4.2 Mourne Mountains wildfires

Wildfires are a growing pressure on nature and can have significant and lasting harmful effects on upland habitats and species.[359,360]

Upland habitats are particularly vulnerable. More than 1,000 wildfires were recorded in the Mourne Mountains between 2016 and 2021.[353] The wildfires in April 2021 were particularly devastating, burning nearly 300 ha of land including Slieve Donard, Northern Ireland's highest mountain and an SAC due to its unique combination of upland habitats and dry heaths. The wildfire caused severe and lasting damage to the heathland and invertebrate populations, with knock on effects for other species.[360] Wildfires have continued to occur since then, including in April 2026.[361]

Healthy and functioning uplands perform a range of vital ecosystem services such as storing carbon, improving water quality and reducing the risk of flooding. When these areas are damaged by wildfires, their ability to deliver these benefits is put at risk.

The threat of wildfires and associated impacts is increasing due to climate change and changing weather patterns.[333] While many wildfires are started deliberately, the 2021 wildfires followed a prolonged period of warm weather and drought that made the area more susceptible to burn.[362,363] Improving the climate resilience of landscapes through restoration and management is crucial to reduce the impacts of wildfires on nature and communities.

Table 4.3.3 Protecting nature on land– summary assessment of prospects of meeting targets and outcomes

Targets and outcomes	Prospects
By 2030: At least 30% of land and freshwater protected, connected and managed for nature.	**Largely off track**
By 2030: 95% of the features underlying the designation of ASSIs to be in, or approaching, favourable conservation condition.	**Largely off track**
By 2030: Create or commence restoration of 20,000 ha of wildlife rich habitat outside the protected site network (to support nature recovery networks and nature-based solutions).	**Largely off track**
All semi-natural peatlands are conserved or restored to healthy, functioning ecosystems by 2040.	**Largely off track**
Increase NI woodland cover to at least 9% (124,000 hectares) by 2030 and 12% woodland cover by 2050.	**Largely off track**

4.3.4 Opportunities for improvement

There are short and long-term opportunities to improve the prospects of achieving nature related objectives and realising the associated wider benefits for society. The substantial extent of land, including protected and priority habitats, under public ownership presents a significant opportunity for leadership and collaboration. Coordination of efforts across the Executive, executive agencies such as Forest Service and NI Water, alongside local councils, would clearly demonstrate how the management of public land will contribute towards meeting targets and commitments. A coordinated approach offers a clear pathway for public authorities to drive positive environmental outcomes and set a benchmark for others to follow.

Clarity is needed in relation to what actions the Executive will take to meet international commitments under the GBF, including how they will stack up and be monitored. Public authorities should transparently set out how all 2030 targets and 2050 goals under the GBF will be translated into national targets and then delivered. Current policy and commitments – including the draft Nature Recovery Strategy – focus predominantly on just one of the 30 by 30 targets. This overlooks the need to take comprehensive action on species extinction (Target 4), enhancing urban planning for biodiversity (Target 12), and reduce harmful incentives (Target 18) amongst other actions.

The development of a species abundance indicator would support assessments of progress and help to ensure nature gains are real and measurable. If robust this could act help monitor progress across the Executive, the EIP and other commitments such as the GBF (see Box 4.3).

Box 4.3 Developing Species Abundance Indicators for Northern Ireland

The Executive has committed to halting and reversing biodiversity loss, with gains in biodiversity to be real and measurable.[171,196] However, no comprehensive species abundance indicator(s) currently exist to measure progress toward and achievement of this outcome.

Building on previously commissioned work, the OEP evaluated six methodological approaches for developing biodiversity indicators, drawing from international case studies spanning single multi-taxa indicators, to comprehensive sets.[364] The report concludes that no single approach performs optimally across the requirements of flexibility, feasibility and responsiveness to pressures.

There are trade-offs that need to be addressed. These include between feasibility and innovation, simplicity and comprehensiveness, and resource requirements. Simple approaches can be implemented more quickly but offer limited insights. Sophisticated pressure-response frameworks provide better assessment capability through scenario modelling but require substantial technical expertise and development capacity which may exceed immediate policy needs. Single indicators enable clear communication, but stakeholders prefer indicator sets that capture complexity. In addition, options exist for low-cost adaptations using existing data, and high-investment innovations requiring new monitoring infrastructure.

DAERA could implement a set of biodiversity indicators through phased development. This would inform immediate policy delivery whilst building the comprehensive assessment capabilities needed for nature recovery.

Box 4.3 Developing Species Abundance Indicators for Northern Ireland (cont.)

In the short-term this involves the use of existing abundance data for species where trend analysis is possible providing a proxy for biodiversity. This includes indicators included in the State of Nature report such as birds, butterflies and bats. In the medium term, this could be expanded to include additional taxa or alternative indicators for example, on distribution. This will build towards a longer-term approach to assessing pressure-response frameworks enabling scenario analysis and forward-looking assessment.

We recommend that DAERA takes a pragmatic approach, making effective use of existing data while continuing to develop more robust and sophisticated indicator(s). It's unnecessary to spend excessive time perfecting a solution when workable options are already available. Furthermore, defining the desired outcomes in tandem with the development of indicators ensures that those indicators are genuinely suited to tracking progress towards those outcomes.

The Living Map of Northern Ireland can be used to enable robust and targeted identification of areas suitable for wildlife-rich habitats. This could be enhanced by expanding the use of habitat mapping undertaken by the Landscape Partnership, which developed the first nature recovery network for Northern Ireland.[365] By integrating these tools, there is potential to target funding and measures that would strengthen the ecological resilience of the current habitat network and inform decision making in the delivery of the 30 by 30 target and other related biodiversity and climate objectives.

Limitations in the availability and uptake of resourcing, including grant schemes, is a significant barrier to fostering nature friendly land management practices and delivering restoration, creation and connection of habitats and species. Schemes should give equal emphasis to both the creation and expansion of habitats, as well as to the implementation of effective management practices. Effective targeting of public funds will be key to achieving nature targets both within and outside of protected sites.

Improved evidence of grant uptake linked to monitoring of their effectiveness is also required. This would help to identify obstacles to uptake, foster adaptive management, increase accountability for funded measures, and guide future scheme development and delivery within and outside of protected sites. While there have been recent increases in some funding opportunities, greater investment is still needed including for the types of measures supported. For example, there is currently has no grant support for ancient woodland restoration, despite the irreplaceable nature of this habitat.[316]

It will be necessary to broaden funding sources beyond public ones to deliver the scale and pace of activities required to restore, create and connect nature. There is a clear need and opportunity to attract private investment. The draft Nature Recovery Strategy includes a commitment to develop a framework and standards for high-integrity environmental markets and partnerships to secure private financing for nature restoration by 2028.[196] While welcome, DAERA should go beyond framework development, towards facilitation and creation of instruments to enable targeted investment that will deliver the greatest improvements.

While the focus must be on implementation and delivery of actions, it is also necessary ensure policy coherence and consistency. For example, the current Forestry Strategy is two decades old, and a new strategy is needed to align woodland policy with wider nature and climate objectives. The Woodland Trust recommends launching a co-design process with the sector to update the strategy and revise woodland cover targets in line with the CCC's guidance.[308]

Enhancing domestic expertise and infrastructure to accelerate nature restoration presents a significant opportunity for the Executive to advance its commitments to economic and social wellbeing. By investing in skill development and strengthening delivery capacity across society and sectors, there is potential not only to support nature recovery but also to drive wider benefits for communities and local economies over the long-term. Positive examples include RSPB NI's Youth Network, County Down Farmland Bird Initiative, and Ulster Wildlife's peatland restoration training covering skills across procurement, contractors and practitioners.[366–368]

For woodlands, increasing domestic tree seed supply and nursery capacity would reduce reliance on imports, lower biosecurity risks, and improve genetic adaptation to local conditions. However, this should be balanced with the need for climate resilience, including the use of non-local provenances where appropriate. There are positive examples of ongoing delivery and collaboration towards woodland targets. This includes for example, the partnership between Magilligan Tree Nursery, Causeway Coast and Glens Heritage Trust, and Northern Ireland Prison Service to strengthen native woodland stock, in doing so improving access to a local and biosecure supply of trees.[369]

There is an opportunity to accelerate delivery by bringing forward key actions set out in the Peatland Strategy Delivery Plan. A priority should be the early operationalisation of the Peatland Asset Register to support targeted restoration and provide strengthen the evidence base for monitoring progress and accountability. Similarly, the Reporting Framework should be delivered without delay to enable transparent tracking of progress against the Peatland Strategy.

There is also a need for clarity on funding beyond 2027 to provide confidence in how peatland restoration will be scaled up in 2028 and beyond. This should be set within a longer-term funding approach aligned to delivery of the overall targets. Future delivery plans would also benefit from greater detail on delivery pathways, including clearer consideration of risks, dependencies, and opportunities to strengthen implementation.

DAERA has both opportunity and need to accelerate delivery of measures that reduce the pressures impacting nature. Timely delivery of action plans for wildfires, invasive species, nutrient pollution and climate change is essential. Decisive action is needed to support nature's recovery and resilience. In doing so the Executive can deliver on broader commitments, including protecting Lough Neagh, improving public access to nature and growing a sustainable economy.

Recommendations for protecting nature on land

Our report on the implementation of protected site law and response to the draft Nature Recovery Strategy made 22 recommendations relating to better implementation of statutory obligations and wider nature objectives. These recommendations still stand.[182,344]

Recommendation 1: DAERA should significantly increase the availability, scope of measures supported, and the uptake of management incentives for the conservation, creation and connection of nature by land owners and occupiers. Incentives should be spatially targeted and available on land and in freshwater environments within and outside of the protected site network. Such incentives include, but are not limited to, the Faming with Nature scheme, Management of Sensitive Sites programme, Small Woodland Grant scheme, Forest Expansion Scheme, Peatland Challenge Fund, Environment Fund and Shared Island Fund.

Recommendation 2: DAERA should establish targets beyond 2030 for species and habitats on land, in freshwater and on the coast. These longer-term targets should set a clear sense of direction for the objectives outlined in relevant strategies. They should be supported with interim targets to ensure ongoing progress towards objectives.

Recommendation 3: DAERA should deliver and operationalise the Peatland Asset Register as soon as possible to enable targeted restoration of peatland and assessment of progress. DAERA should also ensure coherence between EIP actions and the Peatland Strategy.

Table 4.3.4 Protecting nature on land – summary assessment

Past trends	There has been significant loss of nature on land and in freshwater environments. The condition of protected sites continues to decline, accompanied by broader degradation of both rare and common habitats and species throughout the wider landscape.	**Deteriorating trends dominate**
Progress in the reporting period	The scale and pace of efforts to create, restore, or recover habitats and species has been limited. Progress is heavily reliant on the publication of additional strategies or policies and ongoing review processes, with clear, robust delivery mechanisms for achieving targets lacking. Actions are often unclear and vary in their detail and effectiveness. While there is ongoing work to expand woodland and restore peatland, these efforts are not yet at the needed scale and pace. Significant pressures such as ammonia and nitrogen deposition, as well as persistent issues like invasive species, are not being adequately addressed.	**Limited**
Overall prospects of meeting ambitions, targets and outcomes	The scope, scale, pace and resourcing of actions is not aligned with objectives. The absence of delivery pathways, and inadequate governance and organisational structures across the Executive and public bodies limit the integration of policies and actions targeting the causes of biodiversity loss. Ecological lag times mean there is an urgent need to deliver the actions required to meet the 2030 targets.	**Largely off track**
Robustness	The assessment has primarily used publicly available monitoring data and evidence along with expert judgement. It has been informed by the OEPs assessment of the drivers and pressures affecting biodiversity, and scrutiny of the implementation of laws related to terrestrial and freshwater protected sites in Northern Ireland. Limitations in monitoring and data reporting has constrained the analysis.	

4.4 Protecting nature at sea

4.4.1 Key environmental trends

Despite recent improvements in monitoring and reporting, a lack of data means there is an incomplete understanding of the current state of the marine environment and the effectiveness of conservation management measures. This includes species and habitats within and outside of MPAs. However, declines in and losses of marine species and habitats continue to be observed. Pressures on the marine environment are intensifying, through increased nutrient enrichment in transitional and coastal waters, ongoing impacts associated with climate change, and increasing spatial pressures on ecosystems and marine users. A summary assessment is provided in Table 4.4.1 with further detail below.

The updated UK Marine Strategy Part One assessment, published in April 2026, reports that UK waters have met GES for 2 of 15 descriptors and ecosystem components (two achieved, three partially achieved, seven not achieved, 3 uncertain). This is a decline in condition from the previous assessment in 2018, where four of 15 descriptors and ecosystem components were achieved, five partially achieved and six not achieved. Assessment of GES within Northern Ireland marine waters is not possible. Nevertheless, indicators for biodiversity – including birds, benthic habitats, marine mammals – within the Celtic Seas region show no clear evidence of improvement.[370–372] The overarching situation is one of continued deterioration across Celtic seas and UK waters as a whole (see Chapter 2).

Nature within marine protected areas

The MPA network comprises 53 MPAs (ASSIs, SACs, SPAs, Marine Conservation Zones (MCZs) and Ramsar sites), covering 35.6% (2400 km^2) of Northern Ireland's marine waters.[373] This includes 48 MPAs covering 38% (approximately 2022 km^2) of inshore waters (within 12 nautical miles of the coast) and three MPAs covering 26.5% (approximately 398 km^2) of offshore waters.[374,375,93] The network was last expanded in 2018 with the addition of North Channel SAC, along with Queenie Corner MCZ and South Rigg MCZ in 2019.[93,376,377]

There are, however, some uncertainties around the extent of this network. DAERA has not defined the land-ward limit of MPAs, nor established an indicator to assess change. However, best available evidence demonstrates that between 2019 and 2025 there has been no change in the total area (extent) of MPAs including SPAs, SACs and MCZs.

A 2018 assessment by the Joint Nature Conservation Committee (JNCC) concluded that the inshore MPA network is close to but not currently delivering an ecologically coherent network.[378] While most conservation features are represented and replicated, gaps have been identified by JNCC and DAERA.[378,379] A small number of features do not meet the network criteria benchmarks, mainly on replication or the amount of habitat protected.

There are currently no indicators for determining the connectivity (structural or functional) of the MPA network. Spatial and ecological proxies – such as distance and distribution, replication and continuity of features, and movement ranges of mobile species – can be used and have previously been used for assessment.[378] For example, by assessing whether MPAs with sites that afford protection to the same broad habitat type are no further than 80 km apart from each other, the inshore network is considered by DAERA and JNCC to be well-connected.[378,379] However there are still some gaps in the connectivity, including for example for Sublittoral sediments.[378,380]

No connectivity assessment has been conducted for offshore areas or for the combined inshore and offshore network. This assessment is needed to provide information for reporting commitments at both national and international levels, such as those under the GBF and the Oslo-Paris Convention (OSPAR).

It is not currently possible to determine the ecological effectiveness of the MPA network or management measures. This is due to a lack of indicators and changes in DAERA's reporting methodologies.

The APR 2026 states that the condition of MPAs has shown no substantial change in recent years, with the favourable condition status of MPA features remaining at 87% since 2022. However, there is uncertainty around this figure. Best available data demonstrate that 87.5% of biological and geological marine features were in favourable condition in 2024, declining to 85.7% in 2025.[381,264] 8.9% of marine features are in unfavorable condition and three (5.3%) are unfavorable recovering as of 2025.[264] Whilst some individual sites show signs of recovery or stable conditions, several still fail to meet their conservation targets.[381,264]

Data gaps remain for protected marine habitats, including maerl bed habitats which have only yet been confirmed in Red Bay, and submerged or partially submerged sea caves such as those found at Rathlin Island.[270]

Nature in the wider marine environment

The EIP Outcome Indicator Framework currently lacks indicators to assess the condition of species and habitats beyond the boundaries of the MPA network. Limitations in data make evaluation difficult and significant improvements are needed. However, available datasets with sufficient coverage demonstrate that deteriorating trends in habitat and species condition, distribution and abundance prevail.

Many Annex I marine habitats and Annex II/IV/V species under Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (Habitats Directive) both within and outside of the MPA network are in unfavourable condition (2019-2024), continuing a trend from the last reporting cycle (2013-2018).[270]

Marine habitats are largely in unfavourable condition, with stable or deteriorating trends.[270] This includes estuaries such as Lough Foyle and reefs across the inshore region. Some habitats are in favourable conservation status with stable or improving condition. Of the eight marine habitats assessed, three have shown improvements mainly due to an increase in the area in good condition. These include large shallow inlets and bays; mudflats and sandflats not covered by seawater at low tide; and sandbanks which are slightly covered by seawater at all times.

Marine mammal species are assessed at UK level.[270] Of the six species commonly found in Northern Ireland's waters, grey seals (*Halichoerus grypus),* and common dolphins (*Delphinus delphis*) are reported as favourable. Harbour porpoise (*Phocoena phocoena*) (stable), common seal (*Phoca vitulina*) (deteriorating trend), minke whale (*Balaenoptera acutorostrata*) (unknown trend) are unfavourable. The conservation status of common bottlenose dolphins (*Tursiops truncatus*) is unknown due to data gaps.

These declines are repeated for other species and habitats. There has been a 95% decline of European flat (native) oyster (*Ostrea edulis*) populations.[245] Twenty-one species of breeding seabirds are Red or Amber listed including black-legged kittiwake (*Rissa*

tridactyla) which is also a priority species.[382,383] There have been some signs of recovery in the populations of black-headed gull (*Chroicocephalus ridibundus*) and European herring gull (*Larus argentatus)*, moving from Red to Amber conservation status.[384]

These trends reflect the persistent shortfalls in achieving GES for biodiversity – including marine mammals and seabirds – within the Celtic seas region of which Northern Ireland is a part (see Chapters 2 and 5).[152]

Pressures affecting nature at sea

Damaging pressures on marine ecosystems, including nutrient pollution, invasive species, and climate change, are becoming more frequent, widespread, and intense.

Dissolved inorganic nitrogen is an important indicator of the nutrient status of marine environments. Excessive nutrient levels can have damaging effects throughout marine food webs – from contributing to harmful algal blooms that destabilise primary production, to reducing fish populations, which impacts apex predators such as seabird species.[385] There has been a substantial increase in nutrient input into transitional and coastal waters (see Chapter 2).

There is insufficient evidence to assess trends in the introduction or establishment of marine invasive species in Northern Ireland waters due to the lack of a routine risk-based monitoring programme. However, between 2003 and 2020, 53 new non-native species (not necessarily invasive) were recorded for the first time in UK waters in the Greater North Sea or Celtic Seas. Over the same period, the estimated rate of spread of thirteen established marine invasive species within UK coastal waters varied, with the rates decreasing for five species, increasing for one species, and remaining stable for seven species.[386]

At present, there is no indicator to measure the impacts of established invasive species, due to limited data and the absence of thorough monitoring. However, in 2025, DAERA reported that 16 marine invasive species that are high or moderate impact are known to be present in Northern Ireland.[387]

Pathogens, which cause disease and harm to ecosystems and pose a risk to human health, are an increasing pressure.[246] Large declines in breeding numbers have been observed in several UK seabird species of conservation concern following the 2021–2022 highly pathogenic influenza outbreak, with further substantial losses recorded in 2023.[388] Reporting from 2024, however, suggested that there was little to no evidence of the impacts of highly pathogenic avian influenza in Northern Ireland's seabirds.[382]

Climate change imposes distinct pressures on marine environments and exacerbates existing stressors.[246] Between 1996 and 2024 there has been a gradual increase in annual mean temperatures of around 0.1˚C per decade at the sea surface and 0.079˚C per decade close to the seafloor. The last 10 years have seen a faster rate of sea surface warming at almost 1˚C per decade across Northern Ireland's marine area.[93]

Table 4.4.1 Protecting nature at sea – summary assessment of key short-term key trends

Indicator	Indicator trend	Indicator time period
Condition of marine protected areas network		n/a
Extent of marine protected areas network		2019-2025

4.4.2 Progress towards ambitions, targets and outcomes

Overall, progress in the annual reporting period in the marine environment has been limited. Some key measures were put in place prior to or within the reporting period, with others still being developed. However, progress on delivering EIP commitments has largely been delayed due to resource constraints and reprioritisation. Key policy frameworks remain undeveloped or unpublished, resulting in gaps and uncertainty regarding how marine targets will be achieved.

Delivery of objectives related to water quality, marine litter, underwater noise, fisheries, and marine planning – all of which influence the conservation and recovery of nature at sea – are addressed within Chapter 2 and Chapter 5. A summary assessment is provided in Table 4.4.2 with further detail below.

Nature within marine protected areas

There has been limited progress towards the 30 by 30 target and towards having 85% of designated features in favourable condition by 2030. Actions have been focused on developing and co-designing policy and delivery pathways. Limitations in available resources and operational capacity have hindered the finalisation and publication of key strategies, resulting in delays to the timely advancement of actions.

MPA network extent

As no new MPAs were designated during the reporting period, no further contribution was made towards designating an ecologically coherent network. DAERA has ongoing legal duties to adapt the network, designating MPAs where relevant criteria are met, and to ensure it is ecologically coherent.[289,389] There is a robust evidence base on the species and habitats that necessitate additional or extensions of protection. Several associated actions were undertaken before the reporting period, but progress since then has been severely limited.

The 2018 MPA Stocktake assessment by JNCC concluded that the criteria of ecological connectivity could be met for inshore waters by seeking additional protection elsewhere.[390] A 2018 report by DAERA specified the gaps within the inshore region, and evidence has been gathered to support proposals for MCZs relating to biogenic reef, common skate and other priority marine features within the inshore region.[379,391] This includes a commitment to a second tranche of MCZ designations – also referred to as Areas of Search.[389] These designations have not progressed. This includes biogenic reef in the Outer Ards Area of Search which is linked to the Strangford Lough *Modiolus* Restoration Plan.[392] The 2015

plan states that protection of *Modiolous* reefs afforded through designation 'is considered integral to the objective of achieving the long-term recovery of Strangford Lough.'[393]

The APR 2026 indicates that work is ongoing to assess the resource needs required to initiate the future MPA designation programme, with the aim of meeting the 2028 target. However, there is limited evidence of progress towards ensuring that the necessary resources and operational capacity will be in place to deliver on this commitment within the timeframe.

DAERA have proposed statutory amendments to clarify the responsibilities of the Secretary of State and DAERA with regards to the designation, monitoring and management of SACs and SPAs. The draft legislation – The Conservation (Natural Habitats, etc.) (Amendment) Regulations (Northern Ireland) 2025 – has not been published, but was subject to an AERA Committee hearing.[394] This change was necessitated due to an issue arising during the designation process for the Carlingford Lough and East Coast (Northern Ireland) Marine SPAs, which were consulted on in 2016.[395,396] This regulation has not been formally adopted, and these sites remain in proposed status.[397]

MPA network condition

DAERA uses the Management Effectiveness of Protected and Conserved Areas Indicator to assess management of the MPA network.[398,11] The adoption of this indicator is a positive step, and its application should support monitoring progress towards the implementation of Target 3 of the GBF. However, in the absence of published data, it is not currently possible to assess progress towards an effectively managed network.

The development, publication and delivery of management measures – including conservation plans, marine licensing, and management of non-licensable activities, for example through byelaws – has been limited within the reporting period. The MPA Strategy for the inshore region was published after the reporting period.[255]

DAERA informed us that management measures are determined based on the condition assessment monitoring and conservation objectives status. Additionally, where management plans exist they are published as storymaps.[399,291] However there are several sites for which management plans are not developed or published. This includes, for example North Channel SAC and Red Bay SAC which were not included in the first phase of SAC conservation management plan development.[291]

Additionally, whilst sites including Rathlin Island and Strangford Lough have European Marine Site Management Scheme's in place, management plans for the more recently designated MCZs at these locations are currently unavailable. These gaps constrain the capacity of management groups – where present and operational – and create uncertainty regarding the effectiveness of management measures for MPAs.

No progress was made on developing management plans or measures for the three offshore MPAs. These are to be in place by 2026.[171]

The outcomes of the Marine Protected Area Management and Monitoring (MarPAMM) project, which was completed in March 2022, remain unpublished.[400] This includes significant work undertaken to develop management plans for Rathlin Island, Strangford Lough, and Carlingford Lough MPAs.

The APR 2026 notes that DAERA is developing a consultation on a byelaw to prohibit anchoring within the Outer Belfast Lough MCZ, a site designated for the protection of the benthic species ocean quahog (*Arctica islandica*). No timeline has been provided for completion or implementation.

The UK Cetacean Conservation Strategy was published during the reporting period.[401] This was co-developed by Scottish Government, together with Defra, DAERA and the Welsh Government and relevant Statutory Nature Conservation Bodies. The strategy focuses on identifying where action can be taken to build resilience in cetacean species. This is to be delivered through five objectives which include identifying key pressures acting on cetaceans in UK waters and assessing current management measures; developing a framework to support delivery; supporting and improving research and monitoring of pressures and management; raising awareness of the importance of cetaceans; and encouraging collaboration to deliver on relevant international obligations.

Nature in the wider marine environment

For nature in the wider marine environment – species and habitats beyond the MPA network – progress has been limited, and, in some instances, cannot be assessed.

Progress towards achieving the target 'by 2030: Key marine priority habitats and species are in recovery' cannot be assessed at this time. DAERA informed us that this target relates to the lists of priority species and habitats published under the Wildlife and Natural Environment Act (Northern Ireland) 2011). However, uncertainty persists as to which priority species and habitats are included, particularly in relation to the differentiation between terrestrial or coastal features that are functionally connected to the marine area. There is also a lack of criteria and indicators for assessing recovery, insufficient data beyond condition assessments for many marine species and habitats and delivery pathways that remain undefined or underdeveloped.

The APR 2026 indicates that certain actions, including those aimed at achieving recovery of features by 2030, are to be progressed through the implementation of action plans linked to individual marine nature recovery strategies. The APR 2026 reports that a workplan will be developed once the necessary resources are secured. However, it is unclear whether these measures will be comprehensive enough to achieve the required outcomes.

DAERA informed us that action on three priority habitats – seagrass, saltmarsh and native oyster beds – will be delivered through the Blue Carbon Action Plan 2025-2030. Northern Ireland was the first devolved administration to publish a plan or strategy for blue carbon habitats, with DAERA publishing the Action Plan in April 2025. As of that date, the Republic of Ireland had not yet published an equivalent plan. The Blue Carbon Action Plan should provide a coordinated framework for research, habitat restoration, and policy integration. Implementation of the 22 actions within the Blue Carbon Action Plan requires a re-prioritisation of resources.[11]

Key policy frameworks for other species – including seabirds and elasmobranch fish – have yet to be completed or implemented. The APR 2026 states that the intention is for these to be published by Spring 2026. Finalisation of the Seabird Conservation Strategy for Ministerial consideration is limited by capacity and resource challenges.

There is particularly limited progress in the recovery or restoration of coastal ecosystems. The timeline for delivery of nature-based solutions to coastal erosion, including the development of new policy, by 2030 has been extended to an unspecified date.[11]

We understand that nature-based solutions are embedded in departmental advice in response to statutory consultations, and that a formal review of progress and next steps will take place by end of 2027- 2028.

The Coastal Forum agreed in November 2025 to conducting a stocktake report of the current Work Programme and to formulating recommendations for the 2026–2031 Work Programme.[402] However, a timeline for this work has not been specified, and the way in which the Coastal Forum has participated or will participate in the development or delivery of the EIP commitment remains unclear.

DAERA's commitment to co-design and stakeholder engagement relating to marine activities is to be welcomed. DAERA informed us that a Marine Nature Recovery Oversight Group has been convened to oversee how the various strategies and actions are implemented, ensuring consistency. Membership includes DAERA, industry (fishing, aquaculture and renewable energy), academia, local councils, the Agri-Food and Biosciences Institute, environmental Non-Governmental Organisations (eNGOs), Northern Ireland Water and The Crown Estate. We understand that the proposed activities include sharing best practice, exploring funding mechanisms, providing science and research updates, and contributing to actions to meet targets in the EIP. The group's activities should support the achievement of broader objectives and commitments.

Two advisory groups have also been involved in the development of the Seabird and Elasmobranch Conservation Strategies. Membership includes DAERA, NIEA, eNGOs, industry, recreational anglers and academia. We understand that they will reconvene upon publication of the respective strategies. Along with regional site management groups, the advisory groups will have responsibility for implementing actions related to their respective strategies or management plans. The groups will provide updates to the Marine Nature Recovery Oversight Group.

A number of important funding mechanisms under PEACEPLUS have been awarded for research and evidence during the reporting period.[403] These include the Coastal Monitoring and Adaptation Planning Project (CMAP), the Multi-disciplinary Ocean Sensing for Adaptive International Conservation Project (MOSAIC), and A Changing Climate Impact Monitoring and Assessment Toolbox for Irish Seas (ACCLIMATISE).

Addressing pressures

There has been limited progress in relation to addressing pressures affecting nature at sea, including nutrient pollution (see Chapter 2) and implementing management measures for fisheries (see Chapter 5).

Regarding invasive species, the 2025 EIP target for development and implementation of NI Marine Invasive Species Action Plans was missed. The APR 2026 states that this action was not advanced due to resource constraints, but that resources have now been allocated, and work has begun. DAERA informed us that the new deadline for publication was 31 March 2026 which has already passed.

During the reporting period, Defra consulted on the Marine Recovery Fund and Offshore Wind Environmental Compensatory Measures Reforms, both of which could be extended and may affect nature in Northern Ireland marine waters.[404–407] This is subject to further consultation and legislative development and scrutiny by DAERA.

Table 4.4.2 Protecting nature at sea – summary assessment of progress over the annual reporting period towards meeting targets and outcomes

Targets and outcomes	Progress
By 2030: 30% of seas protected, ensuring an ecologically coherent and well managed MPA network.	**Limited**
By 2030: 85% of designated features in the MPA network to be in favourable condition, with 10% of the remainder in recovering condition.	**Limited**
By 2030: Key marine priority habitats and species are in recovery.	**Not assessed**

4.4.3 Prospects of meeting ambitions, targets and outcomes

The overall prospect of achieving a sustainably managed, healthy marine area that benefits current and future generations is partly on track. A summary assessment of is provided in Table 4.4.3 with further detail below.

Actions taken to date provide a foundation. Some key measures required to improve the prospects of meeting targets have been established and their impact should be evident in coming years. However, with only four years left to achieve the 2030 targets, accelerated efforts will be essential to realise meaningful improvements in ecological condition as there are ecological lag-times associated with interventions.

Several EIP actions remain at the pre-implementation phase, with delays in publishing strategies and action plans. Resource constraints also create uncertainty regarding the timely delivery of stated commitments. Furthermore, there is a lack of clarity regarding both the scope and methods for conserving and restoring nature outside designated protected sites, as well as the mechanisms for achieving these aims. This results in a disconnect between stated ambitions and the practical steps put in place to achieve them.

Without a marked increase in the pace and scale of delivery, the condition and connectivity of nature both within and beyond the MPA network is unlikely to be improved as required to meet commitments and targets.

Effectively addressing the causes of marine degradation demands an integrated, source-to-sea approach. The achievement of commitments and targets for nature at sea will be undermined by the lack of coherent, credible delivery plans and meaningful integration into relevant policy frameworks across the EIP.

Nature within marine protected areas

The prospects of achieving targets related to MPAs are partially on track. These targets encompass a range of dimensions related to nature within MPAs, including the condition of designated features, the extent of the network, ecological coherence and the effectiveness of management interventions. When these dimensions are considered, it appears likely that there will be a variety of outcomes. While some have been or are likely to be achieved, others may fall short unless further action is taken.

MPA network extent

While over 30% of Northern Ireland's marine waters are designated as an MPA, further expansion of the network remains necessary to achieve ecological coherence. DAERA must also continue to adapt the network where necessary, recognising that the abundance and distribution of habitats and species are likely to shift over time. Where sites satisfy ecological criteria additional or expansions to designations will also be required.

Significant obstacles to further adapting and expanding the MPA network persist. This includes the clarification of legislative competencies and the absence of secured resources. Based on available evidence, it is unlikely that the MPA network will achieve ecological coherence by 2030.

MPA network condition

The absence of robust published data on the condition of features constrains an assessment of prospects. Recent declines in the ecological status of MPAs underscores the risk that continued delays implementing management measures may lead to further deterioration. This would jeopardise the achievement of the 2030 target related to feature condition and related effective management.

Important management interventions have been established or are being developed. Measures include prohibition of mobile bottom fishing established under the Marine Protected Areas (Prohibited Methods of Fishing) Regulations (Northern Ireland) 2022 (came into operation in 2023), the implementation of anchoring byelaws in Strangford Lough and proposals for Outer Belfast Lough.[408] While these interventions represent positive progress, their ecological effects will not be immediate. DAERA anticipates that improvements in the condition of MPA features will become evident within the next reporting cycle (2026-2031).[11]

The LIFE Raft project provides a notable example of targeted management measures to reduce pressures impacting seabirds (see Box 4.1). This initiative demonstrates what can be achieved at the site level. But such approaches must be substantially scaled up and replicated across the network if MPA targets are to be met and resilience of features increased.

The publication of the MPA Strategy for the Northern Ireland Inshore Region 2025 – 2030 in February 2026 is a positive step. It provides updated policy guidance for initiatives concerning inshore marine protected areas.[409] The current commitment is to have management measures in place by 2028. However, ecological lag times are likely to constrain the pace at which improvements in condition are measurable. This will have implications for achieving a well-managed MPA network by 2030.

We have not identified a systematic evaluation of which MPAs currently possess management measures, which areas need them, and which have been deemed not to need them. The absence of a comprehensive assessment represents a significant gap in the evidence base, limiting the ability to monitor progress, evaluate prospects, and ensure that management measures are appropriately prioritised, targeted and implemented.

In addition, any delay in the development and delivery of management plans and other measures will create further risk. This issue is especially conspicuous for offshore MPAs, where the development of measures is advancing to an unspecified revised timeline. The lack of clarity regarding revised delivery pathways and associated plans is impeding progress and undermining confidence in achieving stated objectives.

Nature in the wider marine environment

The prospects for recovery of broader marine biodiversity, including priority habitats and species, cannot be assessed at this time. This is due to the absence of a comprehensive inventory of the marine species and habitats, criteria for evaluating their conservation status and credible delivery pathways, as well as data limitations.

However, work is underway to address data gaps through the Marine Biodiversity Data Portal. This is a five-year DAERA Environment Fund partnership between Queen's University Marine Laboratory and the Centre for Environmental Data and Recording (CEDaR).[410]

Although some priority species and habitats are included in the Blue Carbon Action Plan or in the Seabird and Elasmobranch Strategies, these initiatives are either in their initial stages or not yet fully developed. However, there are encouraging examples of individual initiatives, such as the Native Oyster Restoration Project.[411]

Efforts must be significantly expanded if marine nature objectives are to be achieved. Feasibility studies, including the work on blue carbon (DAERA Challenge Funded), demonstrate that the solutions are largely understood, and the focus must now shift towards implementation.[412]

Addressing pressures affecting nature at sea

Achieving the MPA target and broader marine conservation objectives requires action to address existing and emerging pressures. The prospects of addressing the impacts of marine invasive species are largely off track. This is due to inadequate resourcing, delays in delivering actions, and a lack of robust monitoring data. Pathway Action Plans for angling and recreational boating in Northern Ireland have been drafted but the timeline for public consultation is unclear, and the lack of all-island alignment limits coherence.

The arrival and establishment of marine invasive species is predicted to rise in the coming decades. An expert assessment in 2017 identified the 40 species that are most likely to arrive on the island of Ireland by 2027, seven of which are marine.[413] Of those seven species, two (the pom-pom weed (*Caulacanthus okamurae)* and the American razor clam (*Ensis leei)*) are now known to be present in Northern Ireland.[387] The time lag between arrival and detection mean more may have already been introduced.

Once established, control of marine invasive species can be very challenging. For example, the Pacific oyster (*Magallana gigas)*, is now present in all major sea loughs and there are concerns regarding potential impact on native habitats and species. Evidence from England shows populations can continue to expand despite control efforts.[414,415]

An all-island marine invasive species strategy, funded by the Department of Housing, Local Government and Heritage in the Republic of Ireland, is being developed. The strategy was originally due to be developed by 2024 and implemented by 2026.[358] Timely development and implementation of this strategy, alongside NI Marine Invasive Species Action Plans, would improve prospects.

Achieving improvements for nature at sea requires actions to be taken to reduce other pressures including planning and development. The Marine Plan for Northern Ireland, a key policy framework, remains unpublished (see Chapter 5). The Marine Recovery Fund and Offshore Wind Environmental Compensatory Measures Reforms may also affect the

prospects of nature recovery at sea. Our assessment of these proposals is set out within our respective consultation responses.[405,407] While we welcomed the overall design and ambitions of both, we identified environmental risks associated with the proposals.

Table 4.4.3 Protecting nature at sea – summary assessment of prospects of meeting targets and outcomes

Targets and outcomes	Prospects
By 2030: 30% of seas protected, ensuring an ecologically coherent and well-managed Marine Protected Area network.	**Partially on track**
By 2030: 85% of designated features in the Marine Protected Area network in favourable condition, with 10% of the remainder in recovering condition.	**Partially on track**
By 2030: Key marine priority habitats and species are in recovery.	**Not assessed**

4.4.4 Opportunities for improvement

Improving the natural environment is a long-term endeavour, yet marine targets are limited to 2030. There is an opportunity and need to strengthen the ambitions related to nature at sea up to 2030 and beyond.

MPA targets outlined in the EIP are either consistent with, or fall just below, existing environmental conditions, providing for a trajectory of decline. To address this, long-term targets with interim milestones should be established, along with corresponding actions, to drive genuine improvement. These should align with ongoing statutory obligations such as GES, and other commitments, for example, to restore 30% of degraded marine ecosystems (Target 2 of the GBF).

DAERA should ensure that management measures – including plans and byelaws – are put in place for all MPAs where necessary. The publication of the inshore Marine Protected Area Strategy must be promptly followed by the development and implementation of effective management measures, with an equivalent sense of urgency extended to offshore sites.

DAERA has the opportunity to build upon the substantial work already facilitated through collaborative partnerships in management and monitoring, such as those developed through the MarPAMM project. By recognising and leveraging these existing efforts, DAERA can maximise resources and avoid unnecessary duplication, especially in light of current constraints. To support accountability and public confidence, the process for determining which management measures are adopted or omitted must be clear and transparent.

Over the past decade, DAERA has also carried out substantial work to enhance its understanding of the extent, coherence, and connectivity of the MPA network. It is essential to build on these efforts. Achieving an ecologically coherent MPA network, that aligns with legal requirements, presents an opportunity to address previously identified gaps and to act on the results of consultations already undertaken. To realise this and increase the prospects of meeting targets for nature at sea, DAERA will need to progress with legislative amendments to the Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 and commit necessary resources.

There is an opportunity to enhance management conditions by adopting the Before-After-Control-Impact approach within monitoring activities. This would enable DAERA to gather more robust evidence on the effectiveness of management measures, supporting both appropriate and adaptive decision making.

To deliver habitats and species recovery outside the MPA network, DAERA should accelerate the development of a comprehensive policy framework including the seabird and elasmobranch strategies, as well as other plans. This framework must clearly articulate the delivery mechanisms for proposed actions, specify the anticipated outcomes, and define the criteria by which progress and success will be measured.

Opportunities exist to enhance and align the monitoring of nature at sea. While there are gaps in public reporting, DAERA Marine Division and the Agri-Food and Biosciences Institute – including through third parties – undertake internationally recognised research and monitoring. To strengthen transparency, it is important to publish available findings and actively work to minimise duplication of efforts across different policy frameworks, measures and targets. Advancing monitoring and reporting processes will support adaptive management and contribute to a more effective nature protection and restoration.

Achieving GES of marine waters will be key to delivering a thriving, resilient and connected nature at sea, and vice versa. This is reflected within the EIP, but not its actions or targets. Progress on biodiversity is contingent upon comprehensive action to address all relevant pressures. This includes the implementation of a source-to-sea management approach for coastal eutrophication; developing, publishing and delivering policies including fisheries management plans, the Marine Plan for Northern Ireland, and implementing measures to reduce bycatch.

Recommendations for protecting nature at sea

Recommendation 1: DAERA should designate previously identified Areas of Search in order to establish an ecologically coherent, connected Marine Protected Area network in accordance with the Marine Act (Northern Ireland) 2013.

Recommendation 2: DAERA should promptly advance the legislative amendments required to enable it to assume full responsibility for the designation of marine Special Protection Areas that meet the necessary criteria under the Conservation (Natural Habitats etc.) Regulations (Northern Ireland) 1995.

Recommendation 3: DAERA should ensure that all Marine Protected Areas, both inshore and offshore, have necessary management plans and measures in place. These should be implemented and enforced to maintain and improve their conservation status. In cases where DAERA has assessed that a site does not require management, this decision should be reported publicly and reviewed within a defined timeframe to support adaptive management and provide accountability and transparency.

Recommendation 4: DAERA should establish targets beyond 2030 encompassing both the Marine Protected Area network and species and habitats outside of designated sites. These longer-term targets should set a clear sense of direction for the objectives outlined in relevant strategies. They should be supported with interim targets to ensure ongoing progress towards objectives.

Recommendations for protecting nature at sea (cont.)

Recommendation 5: DAERA should ensure that monitoring, assessment and reporting of progress against marine targets and commitments is comprehensive and aligned. This should include the development or identification and use of indicators to evaluate the effectiveness of Marine Protected Area management plans and measures and conservation of species and habitats outside of the designated sites. The approach should assess how actions contribute to meeting objectives and identify gaps in monitoring and assessment that need to be addressed.

Table 4.4.4 Protecting nature at sea – summary assessment

Past trends	Marine species and habitats are under growing pressures from planning and development, recreation, shipping, coastal eutrophication, invasive species and climate change. The condition of MPAs is declining, the ecologically coherent network remains incomplete, and available evidence indicates widespread degradation of habitats and species across the broader marine landscape.	**Deteriorating trends dominate**
Progress in the reporting period	While some relevant measures were put in place prior to the reporting period, progress has been delayed due to resource constraints and (re)prioritisation. This includes completing the MPA network. Key policy frameworks remain undeveloped or unpublished so it is not clear how targets will be achieved. Due to a lack of evidence and defined outcomes, progress towards recovery of priority habitats and species cannot be assessed.	**Limited**
Overall prospects of meeting ambitions, targets and outcomes	Many of the actions for nature at sea are in the pre-implementation phase, providing a foundation for future delivery. Accelerated efforts are essential to realise meaningful improvements in ecological condition and to meet ambitions and targets. With only four years left to achieve the 2030 targets, it is imperative that the development and implementation of management measures, the resourcing of actions and the reduction of pressures, are significantly accelerated.	**Partially on track**
Robustness	The assessment has primarily used publicly available monitoring data and evidence along with expert judgement, and commissioned research. Limitations in monitoring and data reporting has constrained the analysis.	

4.5 Natural capital

Natural capital provides a way of understanding, measuring and valuing nature's contribution to people through the benefits it provides. It forms part of society's wealth alongside assets such as infrastructure. It includes both the living and non-living aspects of ecosystems and provides society with a range of services. Provisioning services include outputs that directly meet human needs such as food and water. Regulating services include reducing pollution, flood protection and carbon sequestration. Cultural services include providing settings for recreation, education and tourism.

4.5.1 Key environmental trends

The EIP Outcome Indicator Framework does not include an indicator on natural capital. However, there are available data for Northern Ireland from the UK Natural Capital Accounts. These include physical flows and annual value for 16 ecosystem services, which are the benefits that nature gives to people and the economy in a given year; value of

natural assets, which is the stock, or expected value of the future supply of ecosystem services from a natural resource; and extent of different habitats in the UK.

The latest natural capital accounts show that in 2023 the total annual value of ecosystem services was £585 million (2024 prices).[1] The provisioning of agricultural biomass, fish, timber and renewable energy were valued at £600 million. Regulation of air pollution, greenhouse gases and noise were valued at negative £597 million. This is because nature in Northern Ireland is a net greenhouse gas emitter due to peatland emissions and low levels of carbon sequestration by forestry.

Cultural services such as recreation and tourism were valued at £727 million. More specifically, the health benefits from people visiting nature were valued at £237 million. While annual valuations look at a given year, asset values measure services in terms of future expected supply and use. In 2023, health benefits from spending time in nature represented the second highest asset value at £13 billion, followed by recreation and tourism at £12 billion.

A 2023 analysis of marine natural capital identified 14 societal benefits, such as food provision, climate regulation, and recreation, which collectively contributed between £51 million and £83 million across all Northern Irish waters.[416] This figure is considered an underestimate due to data gaps. The MPA network was estimated to provide an annual value of £20–34 million (2019 prices). Scenario modelling showed that improved management of the MPA network could significantly boost societal benefits.[416]

4.5.2 Progress towards ambitions, targets and outcomes

The APR 2026 lists seven actions related to the development of the evidence base, assessment framework and the integration of the value of biodiversity into decision making. Overall progress has been limited with most actions reported as not progressing or progressing to a new timeline. A summary assessment is provided in Table 4.5.1 with further detail below.

The main focus of activity during the reporting period has been the review and development of the evidence base. This included starting the compilation of an inventory of key biodiversity and natural capital data sets. The APR 2026 also reports progress on development of the Living Map of Northern Ireland and 4th Northern Ireland Countryside Survey. These are intended to provide natural capital data.

The development of a natural capital policy position that will inform an assessment approach has not progressed. Neither has the development of a natural capital and ecosystem assessment framework. Although work plans for both these actions are now in place, further information on activities and timelines has not been provided. There has also been no progress regarding the integration of biodiversity values into decision making with the APR 2026 reporting this as progressing to a new timeline.

Table 4.5.1 Natural capital – summary assessment of progress towards meeting targets and outcomes

Targets and outcomes	Progress
By 2027: Scope and develop a robust natural capital and ecosystem assessment framework for NI for government departments and public bodies, etc.	**Limited**
By 2027: Enhance natural capital reporting, data and habitat mapping systems to make natural capital and ecosystem datasets more readily available and integrate into natural capital accounting and reporting systems (natural capital and ecosystems assessment platform).	**Limited**

4.5.3 Prospects of meeting ambitions, targets and outcomes

The prospects of achieving the EIP targets are largely off track. The APR 2026 indicates that it will be necessary to develop a dedicated natural capital programme. It also identifies the lack of available capacity and skill sets needed to advance work at sufficient pace as a main challenge.

The development of natural capital policy is to be taken forward through the draft Nature Recovery Strategy. While the draft Strategy includes the relevant targets from the EIP, it does not provide any further information on actions that will be taken to achieve them.

Table 4.5.2 Natural capital – summary assessment of prospects of meeting targets and outcomes

Targets and outcomes	Prospects
By 2027: Scope and develop a robust natural capital and ecosystem assessment framework for NI for government departments and public bodies, etc.	**Largely off track**
By 2027: Enhance natural capital reporting, data and habitat mapping systems to make natural capital and ecosystem datasets more readily available and integrate into natural capital accounting and reporting systems (natural capital and ecosystems assessment platform).	**Largely off track**

4.5.4 Opportunities for improvement

The integration of natural capital into policy and decision making is a long standing objective. The Aichi 2010 biodiversity targets included a target that by 2020 biodiversity values would be incorporated into national accounting and reporting systems (Target 2). This objective was restated in the GBF with a target that by 2030 biodiversity and its multiple values would be integrated into decision making at every level (Target 4).[249] The need to integrate the value of nature into national accounting systems and economic and financial decision making was also a key message from the Dasgupta Review of the economics of biodiversity.[2] These objectives are long standing because they are challenging to achieve.

The development of a natural capital programme provides an opportunity to set out a plan that can speed up progress and improve prospects. There are benefits in having a clear differentiation between actions to develop the evidence base and those needed to set up

an accounting and reporting system and ensure its uptake and use. These actions are not necessarily sequential. The evidence base on the location and condition of natural assets and ecosystems and assessment of how these are changing over time, will always be in development. Whereas there are many relevant developments regarding natural capital accounting and reporting that DAERA can draw on now. This would ensure that effort is not duplicated and address the lack of available capacity and skill sets identified as a barrier to progress in the APR 2026.

The development of a natural capital and ecosystem assessment framework can draw on the EU initiative on Mapping and Assessment of Ecosystems and their Services (MAES). This involved the development of an assessment framework and delivery of an ecosystem assessment covering land, freshwater and marine ecosystems.[417] In addition, in England, Defra and partners have developed a Natural Capital and Ecosystem Assessment (NCEA) programme. This is delivering a range of products including inventories and maps as well as monitoring networks.

The UK Natural Capital Accounts produced by the Office for National Statistics (ONS) already include country level data for Northern Ireland. These accounts are developed in in line with the United Nations System of Environmental-Economic Accounting (SEEA) – Ecosystem Accounting.[418] They include a physical account of habitat extent. Although they do not currently include condition accounts, in the annual publication the ONS publish condition indicators for individual habitats in the habitat accounts. The SEEA – Ecosystem Accounting sets out a methodology for the development of condition accounts. In addition, a European project on Integrated Natural Capital Accounting built on the MAES assessment framework and developed a first set of accounting modules on ecosystem extent, condition and services. The project also identified lessons learnt which could inform the development of any future natural capital accounting work undertaken by DAERA.

The APR 2026 indicated that there has been some engagement between the Department for Communities and the Department for Culture, Media and Sport on cultural and heritage capital. There are also opportunities for DAERA to get support with developing natural capital accounting and reporting. ONS Local is an analytical advisory service available to local government and devolved administrations across the UK. ONS Local are currently involved in research to develop an environmental goods and services sector account for Northern Ireland.

Opportunities also exist to progress the integration of natural capital and biodiversity values into decision making. However, these are dependent on publication and implementation of the draft Nature Recovery Strategy and draft Green Growth Strategy as well as the implementation of the Environmental Principles Policy Statement. The draft Green Growth Strategy contains a commitment to introduce a statutory green growth test that includes natural capital assets. It aims to ensure that they are considered in the appraisal of all policies, programmes and projects for which there are public funding applications. Delivering on this commitment will be essential to achieving the EIP outcome of ensuring that the value of natural resources is recognised and embedded in investment decisions.

Table 4.5.3 Natural capital – summary assessment

Past trends	There are currently no indicators that provide a timeseries of natural capital and ecosystem services.	**Not assessed**
Progress in the reporting period	There has been progress in developing the evidence base but limited or no progress with actions to develop an assessment framework and accounting and reporting system.	**Limited**
Overall prospects of meeting ambitions, targets and outcomes	The development of a dedicated natural capital programme will be necessary along with building capacity and skill sets. The current pace of developments mean it is unlikely that the targets will be achieved. Key strategies such as the Nature Recovery Strategy and Green Growth Strategy remain in draft form.	**Largely off track**
Robustness	The assessment draws on publicly available data and expert judgement.	

4.6 Conclusions

Unsustainable pressures on nature driven by human activity are increasing, causing iconic species and habitats to decline at an unprecedented rate. If current trends on land, in freshwater and at sea continue, the Executive will be unable to meet their commitments and obligations related to biodiversity. Failure to do so undermines long-term economic and societal prosperity.

The interventions needed to achieve meaningful change, reduce pressures and restore nature are largely known. Progress, however, remains constrained by persistent and acute staffing vacancies, competing pressures, monitoring and reporting limitations, policy misalignment and insufficient awareness of statutory obligations. The ongoing emphasis on policy and strategy development, and substantial shortfall in both pace and scale of practical delivery further limits achievement of a thriving, resilient and connected natural environment.

If harnessed effectively, monitoring and reported data can better inform and refine policy direction and target conservation and restoration efforts. Strengthening data use will enable more adaptive management, underpin evidence informed decision making, and drive progress. It is important to avoid unnecessary duplication of efforts, ensuring that new initiatives complement existing work rather than repeat it. For example in developing a set of biodiversity indicators for various reporting requirements, consideration should be given to the JNCC review of UK Biodiversity Indicators – including those featured in the Northern Ireland Environmental Statistics Report.[419]

Lack of data should not justify inaction. When risks or potential harm exist, a precautionary approach is necessary, and it is important to respond quickly and proactively.

The positive impact of initiatives such as peatland restoration on the Garron Plateau and Black and Divis Mountain, the eradication of ferrets on Rathlin Island, and the reconnection of ancient woodland in the Faughan Valley, serve as clear evidence of what can be achieved through focused interventions. Nevertheless, achieving landscape and seascape scale restoration will require a sustained and coordinated approach to overcome both legacy issues and persistent delays, moving beyond piecemeal action to deliver integrated and enduring results.

If significant progress is not made in tackling the underlying drivers of environmental degradation and pressures affecting nature, the prospects of achieving targets and outcomes will remain off track. Merely addressing symptoms without confronting the root causes will result in only partial progress and may undermine the long-term effectiveness of conservation measures. DAERA and the Executive must focus on implementing coordinated and holistic measures that address underlying challenges.

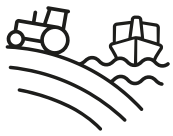
Looking to the future, continued underinvestment in nature-based solutions – both in terms of financial resources and human capacity – will inevitably lead to far greater costs in the future. This underscores the pressing need for bold and decisive action to safeguard the natural environment. By prioritising investment and strengthening capacity now, DAERA and the Executive can avoid compounding challenges and ensure a more sustainable legacy for generations to come. However, with many competing priorities it will be essential to ensure that the value of natural capital and biodiversity is recognised and embedded in investment decisions.

There exists a real opportunity to develop and deliver a coherent response that unites efforts to address biodiversity loss and climate change. Aligning strategies and actions offers the chance to maximise impact, making progress towards a healthier, more resilient planet while efficiently using resources. Collaboration and thoughtful integration of these priorities are crucial steps forward.

Ultimately, resilient and well-functioning ecosystems are essential for delivering nature-based solutions to climate change. Protecting and restoring these systems supports climate mitigation and adaptation. It also underpins biodiversity and the many benefits nature provides to society. Thriving ecosystems will lay the foundation for enduring resilience in the face of growing environmental challenges.

Chapter 5: Sustainable production and consumption on land and at sea

Chapter 5: Sustainable production and consumption on land and at sea



5.1 Summary assessment

Natural resources are the foundation for society, economy and wellbeing. Sustainable production and consumption aims to minimise environmental harm, enhance nature's recovery and support resource security and economic prosperity.

There is a mixed picture when it comes to reducing environmental pressures. While some trends are improving, overall pressures remain too high. Unsustainable agricultural practices are still leading to pollution and biodiversity loss. The overall exploitation of fish stocks is still beyond the limit for sustainability. There is little evidence that exposure to harmful chemicals is reducing.

Progress has been made in putting policies in place that can deliver improvements. This includes the Sustainable Agriculture Programme, the Northern Ireland Energy Strategy, development of a new fisheries management framework and producer responsibility schemes. However, current developments are not in line with policy ambitions, implementation is not at the scale and pace required and is impeded by insufficient capacity and limited resources. In addition, data gaps mean it is challenging to assess progress and evaluate the effectiveness of actions.

The prospects of achieving the EIP targets and outcomes are largely off track. Important policies such as the Marine Plan, Green Growth Strategy, Nutrient Action Programme and Ammonia Strategy are delayed. In addition, the time lag between policy development and delivery and achieving environmental outcomes reduces the prospects of meeting targets. It takes time to achieve the needed changes in agricultural and fishing practices and to develop the infrastructure required to increase renewable energy generation.

Opportunities for improvement include going beyond the EIP's limited sectoral focus and taking a broader systems perspective, systematic application of the Environmental Principles Policy Statement and strengthening policy coherence. The food system links many actions and outcomes. DAERA can strengthen the links between the EIP and the Food Strategy Framework to deliver improved policy coherence and maximise the impact of interventions.

Table 5.1 Sustainable production and consumption on land and at sea – summary assessment

Theme	Past trends	Progress	Overall prospects
Future agricultural policy	**Trends show a mixed picture**	**Limited**	**Largely off track**
Energy	**Deteriorating trends dominate**	**Limited**	**Largely off track**
Productive and sustainably used seas	**Trends show a mixed picture**	**Limited**	**Largely off track**
Producer responsibility	**Not assessed**	**Mixed**	**Largely off track**
Chemicals	**Not assessed**	**Limited**	**Largely off track**

5.2 Introduction

Prosperity, health, and wellbeing are intrinsically linked to a healthy natural environment and the sustainable use of natural resources. Achieving sustainable production and consumption of goods and services helps reduce the environmental impact of human activities domestically and globally. It also contributes to security of supply of scarce and non-renewable resources.

This strategic environmental outcome (SEO 4) comprises seven themes and aims to reshape how Northern Ireland produces, extracts and consumes goods on land and at sea, by embedding sustainability across all sectors, reducing environmental pressures, and supporting a resilient economy.

The focus of our assessment is on the three sectors included in this SEO, namely agriculture, energy and fisheries. It also includes producer responsibility as a key mechanism for delivering sustainable production and consumption and the safe use and management of chemicals. In addition, it addresses single-use plastics (see Chapter 6).

5.3 Future agricultural policy

5.3.1 Context and commitments

The agri-food sector is Northern Ireland's largest manufacturing industry, producing surplus food for local needs and exporting over three-quarters of its products. It is proportionally almost three times more significant to Northern Ireland's economy than agriculture is in the UK. It plays a critical role in rural communities and regional development, with most processing facilities located outside Belfast and nearly 26,000 farms in rural areas. Approximately one-fifth of these farms are large enough to support full-time employment, underpinning rural livelihoods and community resilience.[420]

The current agricultural structure has evolved in response to societal demands for affordable food, government support for home-grown produce, and ambitions for business growth. About 70% of agricultural land is classified as Less Favoured Area, presenting natural obstacles for farming.[102] Despite these constraints, farmers have demonstrated adaptability to shifting policies and consumer expectations, and there has been some progress in relation to balancing food security and environmental protection.

DAERA's Future Agricultural Policy Decisions were published in 2022 and originally delivered through the Farm Development and Support Program.[201] However, it is now being delivered through the Sustainable Agriculture Programme (SAP) which has resulted in some changes to the programme prioritisation and timelines for delivery.[166,421] SAP is central to supporting the sector as it continues to adapt to economic pressures, environmental responsibilities, and changing market expectations. It also helps to ensure that rural livelihoods and farming remain viable for subsequent generations.

SAP has four principal aims: increasing productivity through innovation and investment; improving environmental sustainability by enhancing soil, water, and air quality and biodiversity; strengthening sector resilience against market volatility, climate impacts, and disease outbreaks; and ensuring the supply chain functions effectively, with transparent and efficient relationships from farm to market.[422]

To achieve these aims, the SAP encompasses a broad range of actions.[78] These include the Farm Sustainability Standard, which all farmers must meet to receive their basic payment, and additional schemes focused on reducing emissions (such as the Beef Carbon Reduction (BCR) Scheme), minimising environmental impacts (Farming with Nature), and supporting knowledge transfer and innovation (Farming for Sustainability – Knowledge & Innovation Schemes).

The EIP sets out one commitment that relates explicitly to SAP, namely, the roll out of the new Actions and Enabling Schemes. While we acknowledge the importance of the SAP's economic and social sustainability functions, our assessment primarily focuses on its environmental sustainability pillar. However, a clear definition of what environmental sustainability entails has yet to be provided by DAERA. As agriculture operates within an already degraded environment, it should aim, at a minimum, to prevent further harm. However, ambitions also extend to nature restoration, meaning environmental sustainability must advance beyond mere protection. Defining what sustainable agriculture looks like requires consideration of the targets set out in existing regulations and the EIP.

In the interim, we use the scope set out in the SAP, namely, improving soil, water, and air quality as well as biodiversity through sustainable land management. Improving the environmental sustainability of agriculture is essential to achieving a range of other EIP targets and outcomes. Agriculture is a significant source of phosphorus and nitrates in water and ammonia emissions in air (see Chapter 2), a key factor in land access and landscape aesthetics (see Chapter 3), and a contributor to habitat loss and a potential driver of nature restoration (see Chapter 4). Agricultural manure is a central component of the circular bioeconomy (see Chapter 6), while the sector is the primary source of methane and nitrous oxide emissions, making it the largest contributor to Northern Ireland's greenhouse gas emissions (see Chapter 7).

In our report on the drivers and pressures affecting terrestrial and freshwater biodiversity, we demonstrated the wide range of pressures that agriculture is placing on the environment, primarily through pollution, land use change, and resource exploitation.[89] SAP makes an important contribution to addressing these pressures and aims to ensure that agriculture meets climate targets, protects soil and water quality, and enhances biodiversity, all of which are fundamental to long-term food security.

However, delivering environmentally sustainable agriculture is not purely dependent on SAP, as it does not address all pressures. Effective delivery of environmental sustainability will depend on a range of regulations, strategies, and programmes that impact agriculture and the environment. The Nutrient Action Programme Regulations (Northern Ireland) 2019, Ammonia Strategy, Nature Recovery Strategy and The Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995 are of particular importance.[20,196,423,424] The agri-environmental regulatory landscape is complex, presenting challenges for policy coherence, management of trade-offs and practical application of regulations on farms.

5.3.2 Key environmental trends

We draw on indicators that have been assessed in other chapters and present additional ones to provide an overall perspective on the environmental sustainability of the agri-food industry. A summary assessment is provided in Table 5.3.1 with further detail below.

Over the long-term, greenhouse gas (GHG) and nutrient emissions from agriculture have increased. Although they have stabilised in recent years, levels are above those needed

for agriculture to be considered sustainable. For example, agriculture remains the largest emitter of GHGs.[425] Achieving the net zero targets set out in the Climate Act will require the sector to reduce methane emissions, though the Act does not require a reduction of more than 46% compared with the 1990 baseline.[27]

Unsustainable nutrient surpluses are primarily driven by the importation of concentrated animal feed and fertilisers. Regarding nitrogen, concentrated animal feed and fertiliser each account for approximately half of the total agricultural input. However, nitrogen use efficiency remains low, averaging around 28% since 2019.[95] This indicates that only 28% of the nitrogen entering agriculture is incorporated into meat, dairy, eggs, and other farm produce, with the remaining 72% returning to the environment – mostly as inert nitrogen gas, but also as nitrates, ammonia, and nitrous oxide, which are lost to air and water (see Chapter 2).

For phosphorus, the contribution has shifted from an equal split between concentrated animal feed and fertiliser in the early 2000s, to a scenario where concentrated animal feed now accounts for 80% of inputs.[95] Phosphorus use efficiency has improved from 31% to 50% during this period. Consequently, half of all phosphorus entering agriculture accumulates in soil or water, with some also exported from Northern Ireland as manure or related products.

The poor condition of habitats indicates the enduring impacts of agricultural activities on the environment, and populations of farmland birds continue to decline (see Chapter 4). The overall decline in birds is largely driven by the decline in farmland birds.[93] Nevertheless, data from the Environmental Farming Scheme (EFS) highlight the positive impact that targeted agricultural interventions can have in reversing these trends.[93] The EFS has brought 2,200 hectares of breeding wader bird sites and 27,000 hectares of moorland habitat, including blanket bog, under appropriate management. The Scheme has also facilitated the installation of 750 bird boxes and 240 bat boxes. By 2024, the EFS Wider Level supported the implementation of 2,500 kilometres of water quality measures, such as riparian zones, and the planting or enhancement of 1,000 kilometres of hedgerows since the scheme's inception.

Table 5.3.1 Future agricultural policy – summary assessment of key short-term trends

Indicator	Indicator trend	Indicator time period
Net GHGs in Agriculture		2018-2023
Net GHG Land Use, Land Use Change & Forestry (LULUCF)		2018-2023
NI Phosphorus Balance		2019-2024
NI Nitrogen Balance		2019-2024

5.3.3 Progress towards ambitions, targets and outcomes

A summary assessment is provided in Table 5.3.2 with further detail below.

The Sustainable Agriculture Programme was formally introduced in 2025.[421] While it is too early to fully assess its impact, the Farm Support and Development programme was implementing the Future Agricultural Decision prior to the introduction of the SAP.[426]

Prior to the introduction of the SAP, we commissioned research to evaluate future agricultural policy and its delivery through the Farm Support and Development Programme (see Box 5.1).[427] The findings of the research are still relevant to the SAP, as it has largely only resulted in reprioritisation and changes to timelines, rather than a complete overhaul of the Farm Support and Development Programme.

Box 5.1 Mapping of agricultural policies in Northern Ireland

We commissioned a study to assess whether the Future Agricultural Policy has a coherent vision, sound evidence base, effective strategy, and credible plans for action, delivery, and evaluation.[428]

Overall, the review found that the Future Agricultural Policy's vision lacks clarity and consistency. While it sets out four core objectives—productivity, environmental sustainability, resilience, and a responsive supply chain—these are not clearly prioritised, and key concepts such as sustainability and resilience are poorly defined. Targets are limited and rarely specific, measurable, achievable, relevant and time-bound (SMART), weakening accountability. The policy draws on scientific evidence, expert input, and pilot schemes, but the application of evidence is uneven across workstreams, with some drivers and pressures insufficiently addressed. The absence of a published theory of change makes it difficult to understand how the fourteen workstreams collectively deliver the overarching vision, and several schemes.

The action and delivery plans face significant challenges. Stakeholders highlighted unclear timelines, inadequate and uncertain funding, and fragmented communication, all of which undermine confidence and long-term planning. Limited resourcing within DAERA and delivery partners, an ageing technical workforce, and constrained capacity for in-person knowledge transfer further threaten effective implementation. Evaluation is also weak: despite a dedicated metrics and monitoring workstream, there is no published evaluation framework, key indicators remain under development, and the annual Future Agricultural Policy evaluation report has not yet been released. This makes it difficult to assess progress or outcomes across the programme.

The study makes several recommendations. For DAERA, these include establishing a clear overarching vision, defining key terms, setting SMART targets, publishing a theory of change, clarifying long-term timelines and funding, improving communication with farmers, strengthening delivery partner capacity, and embedding a robust evaluation framework. It also recommends continued investment in skills and capacity within policy design and delivery teams.

To date, there has been positive progress in the implementation of SAP. A number of its components, such as the BCR Scheme (launched in January 2024) and the Soil Nutrient Health Scheme (SNHS) (introduced in 2022) have been operational for at least two

years.[81,429] Other schemes, including the Farm Sustainability Scheme, Suckler Cow Scheme, and the Farming with Nature Transition Scheme, have been in place for at least one year.[166]

Even though the Climate Action Plan remains in draft,[53] DAERA has proactively advanced the BCR and Suckler Cow Scheme through SAP, representing a positive step towards reducing GHG emissions from agriculture. Similarly, the UK Dairy Carbon Network project is underway, bringing together dairy farms and supply chain partners from across the UK to explore and identify practical solutions to reduce GHG emissions.[430] While the number of farms involved is limited, supporting these early adopters within the dairy industry is essential, as they can catalyse broader industry change.

Schemes such as the BCR Scheme and the SNHS have demonstrated impressive uptake among farmers and hold considerable promise for reducing emissions to air and water. Notably, 98% of eligible farmers have enrolled in the BCR scheme,[431] while DAERA have told us that the SNHS has achieved 93% participation, with a significant number of field samples collected to date.

While the implementation of these components of the SAP is welcome, the slow roll out of the Farming with Nature (FwN) scheme remains a concern. The FwN Transition Scheme offers valuable measures for environmental restoration, but its scope is currently limited, including riparian zones, tree planting, hedgerows.[432] The measures available only address a subset of pressures that agriculture exerts on nature.

The environmental sustainability of agriculture is intricately linked to the interaction and synergy between SAP and a range of other regulatory frameworks and strategies, including the Nutrient Action Programme (NAP), Ammonia Strategy, Nature Recovery Strategy, and the Conservation (Natural Habitats, Etc.) Regulations (Northern Ireland) 1995.

Ongoing delays in revising the NAP mean it is now two years overdue, and similar delays in the publication and implementation of the Ammonia Strategy, Climate Action Plan, and Nature Recovery Strategy are having significant negative consequences for the environmental sustainability of agriculture – and will have an impact on the success of the SAP.

Table 5.3.2 Future agricultural policy – summary assessment of progress over the annual reporting period towards meeting targets and outcomes

Targets and outcomes	Progress
An industry that is environmentally sustainable in terms of its impact on, and guardianship of, air and water quality, soil health and biodiversity, while making its fair contribution to achieving net zero carbon targets.	**Limited**

5.3.4 Prospects of meeting ambitions, targets and outcomes

A summary assessment is provided in Table 5.3.3 with further detail below.

The introduction of the Farm Sustainability Standards (FFS) in January 2026 are an important milestone, establishing minimum standards that all farmers must meet.[433] These standards are closely linked to payments and encompass critical areas such as water protection, habitat and biodiversity conservation, landscape and soil management, animal welfare, biosecurity, and supply chain traceability. The FFS conditions require that farmers

participate in specific SAP schemes.[434] In 2026, participation in the SNHS and Bovine Genetics Scheme is a condition of payments under the FFS with plans to expand this requirement to include the Carbon Footing Project in subsequent years. These initiatives will equip all farmers with essential baseline data for sustainably managing their operations.

However, despite DAERA's efforts to implement the SAP, significant challenges remain in achieving true environmental sustainability within the sector. Progress is being offset by an increase in livestock numbers, particularly in the more intensive sectors.[435] Although overall cattle numbers decreased by 2% between June 2024 and June 2025, this reduction was driven by a decline in beef cattle numbers, whilst dairy cattle numbers increased by 2% during this period. During the same period, total poultry numbers rose by 9% and total pig numbers by 8%. If this trend continues, achieving the targets and outcomes of the EIP will become increasingly difficult.

Although several SAP schemes have been prioritised for roll out, the cornerstone initiative designed to balance agricultural productivity with environmental commitments – the Farming with Nature Scheme – has yet to be fully developed, along with the FwN landscape and priority species scheme. Given its pivotal role in fulfilling the objectives of the draft Nature Recovery Strategy, speeding up the development and deployment of FwN is essential.[196]

The success of the FwN Scheme will be determined largely by the extent of farmer participation, which is critical for the protection and restoration of natural habitats. Historical trends show that the EFS experienced lower uptake than its predecessors. By the end of 2024, just over 3,480 agreements were in place, covering 59,000 hectares. In contrast, the previous agri-environment schemes combined – The Countryside Management Scheme and Environmentally Sensitive Scheme – encompassed nearly 450,000 hectares.[93] To achieve similar figures during the implementation of the FwN Scheme, funding must match ambition, and comprehensive on-farm support must be provided.

An evaluation we commissioned found that locally targeted advisory services, especially involving trusted advisors and combining individual with group-based guidance, are highly effective in promoting nature-friendly farming.[312] Tailoring advice to specific regions and farm systems fosters trust, increases adoption of best practices, and ensures environmental initiatives are both regulatory compliant and impactful.[109] Such support will enable farmers to choose the most suitable measures for both their operations and the environment. A good example of where this approach is being applied is the Sustainable Catchment Programme (see Chapter 2).

A major barrier to the prospects of achieving environmentally sustainable agriculture is the lack of progress on critical policies such as the NAP, the Climate Action Plan, the Ammonia Strategy, and the Nature Recovery Strategy.

For example, as highlighted in our recent review of the NAP, the 2019 regulations do not adequately address nutrient losses from agriculture.[86] Strengthening the NAP is essential to reducing nutrient surpluses and lowering concentrations of phosphorus and nitrates in water bodies.

Conversely, the introduction of the Pilot Protein Crop Scheme in 2021, and its extension in 2026, help to mitigate the import of animal feed concentrates, which have historically contributed to increased phosphorus and nitrogen surpluses in Northern Ireland. In 2020, the Pilot Protein Crop Scheme saw 150 hectares cultivated across 32 farms, and by 2025, this had grown to 481 hectares on 96 farms.[78] While the current impact of this scheme in

reducing reliance on imported animal feed concentrates is small, it is a good example of a scheme that could increase the sustainability and resilience of agriculture if scaled up, yielding benefits for the NAP, CAP, and Ammonia Strategy.

The implementation and uptake of these policies, coupled with the behavioural changes required for meaningful impact, will inevitably take time. Furthermore, ecosystem recovery from the prolonged damage caused by agricultural practices – particularly nutrient loading and land use change – will require sustained effort and patience.

For example, to support compliance with UK-level obligations under the National Emission Ceilings Regulations 2018, Northern Ireland would have to achieve a reduction of 6.7 kt in ammonia emissions from 2022 levels by 2030, if it is to deliver an equivalent contribution to the UK-wide target of a 16% reduction from the 2005 baseline.[65] This is an example of the scale of the challenge ahead. In our report on protected sites in Northern Ireland we outlined the significant changes also required to governance, funding, implementation and management of these sites, if designated sites and species are to be protected and restored.[182]

In summary, while progress has been made towards implementing SAP, the prospects of achieving environmentally sustainable agriculture are off track. Addressing gaps in policy development, ensuring progress is not offset by an increase in livestock numbers, enhancing agri-environment scheme uptake, and ensuring adequate support and funding are crucial steps towards reversing ecological decline and fulfilling commitments.

Table 5.3.3 Future agricultural policy – summary assessment of prospects of meeting targets and outcomes

Targets and outcomes	Prospects
An industry that is environmentally sustainable in terms of its impact on, and guardianship of, air and water quality, soil health and biodiversity, while making its fair contribution to achieving net zero carbon targets.	**Largely off track**

5.3.5 Opportunities for improvement

Overall, the SAP and associated agri-environment regulations form a broad and integrated response to the various environmental pressures created by agriculture. Implementation of the SAP can be enhanced by ensuring that synergies with regulations such as the NAP are realised and trade-offs are effectively managed. Our report on the NAP has already identified opportunities for enhanced coordination between the NAP, CAP, and Ammonia Strategy.[86]

Another example of a potential trade-off is the BCR Scheme, which may inadvertently increase the use of animal feed concentrates, affecting agricultural phosphorus balances if not properly managed.[436] The scheme may also be discouraging conservation grazing using native or low input breeds, which can't meeting the BCR scheme targets.[437]

Substantial hurdles remain in the effective design and implementation of these actions aimed at reducing the impact of agriculture on the environment – in particular, funding constraints, limited resources, and weaknesses in governance arrangements. These obstacles not only delay the achievement of intended outcomes but also reduce their potential benefits.

Although agriculture exerts considerable pressure on the environment, it is also instrumental in delivering solutions for clean air and water, nature recovery, climate resilience, and food security. Farmers face many pressures, yet environmental objectives and the long-term interests of farmers are the same – a sustainable and resilient food system. Farmers willingness to actively engage in agri-environment programmes is evidenced by the high participation rates in schemes such as Countryside Management.[93] This demonstrates that the Farming with Nature Scheme presents a significant opportunity for nature's recovery.

The SAP has established a robust foundation for developing the sectoral plan required under the Climate Action 2021 regulations. Initiatives such as the BCR Scheme, Suckler Cow Scheme, and the Dairy Carbon Network serve as essential precursors to the forthcoming Carbon Footprinting Project, which will be mandatory on all farms and scheduled for introduction in 2026.[438] The implementation of the Bovine Genetic Project is also poised to drive improvements within cattle herds by enabling genetic selection to enhance both environmental and economic performance, including reducing methane emissions from dairy and beef animals.

Accurate estimation of carbon stocks in hedgerows and agricultural soils through the SNHS will be vital for demonstrating agriculture's existing contribution to carbon sequestration.[81] This will also improve the accuracy of Land Use, Land Use Change and Forestry emission data. The development of a soil quality indicator as part of the SNHS and its proposed inclusion in the draft Climate Action Plan, will further support the implementation of the Carbon Footprinting Project and the estimation of Land Use, Land Use Change and Forestry emissions.[53]

The SNHS is providing farmers with an unprecedented level of data for soil nutrient management and for identifying runoff risks on a field-by-field basis. This data driven approach offers a significant opportunity to enhance agronomic productivity while simultaneously reducing nutrient losses to water. To maximise these benefits, it is essential that DAERA provides farmers with the necessary support and incentives to use these data effectively. Coupled with the roll out of the Sustainable Utilisation of Slurry Scheme, the SNHS presents a unique opportunity to drive the development of a circular bioeconomy (see Chapter 6).[108] This will help reduce nutrient losses to both water and air, while also decreasing the carbon footprint of the agricultural and energy sectors.

DAERA's support for the Sustainable Utilisation of Slurry Scheme and the recent Small Business Research Initiative (SBRI) funding for the Sustainable Utilisation of Layer Manure is vital for driving positive change.[439] These build upon the success of the SBRI Sustainable Use of Poultry Litter Project, which has resulted in a significant proportion of poultry broiler manure being diverted from land application to anaerobic digestion plants and nutrient stripping processes.[440,441]

Regulatory frameworks and market forces have also spurred innovation within the agri-food sector. For example, the poultry broiler industry has taken proactive measures to address carbon emissions by calculating the carbon footprint for each farm and flock.[442] Significant reductions in ammonia emissions have been achieved through improved housing and the use of additives in poultry litter.[441]

Similarly, the Dairy Roadmap is a cross-industry sustainability initiative that connects farms, processors, and retailers to reduce emissions, protect and enhance nature, safeguard animal welfare, and maximise the social and economic benefits for the UK dairy sector.[443]

These initiatives collectively demonstrate the potential for the agri-food industry to enhance its environmental sustainability. However, it is vital that these changes occur at pace. The challenges associated with achieving environmentally sustainable agriculture will intensify with climate change, the effects of which are already evident. It is equally important that the benefits of this approach are not undermined by increases in livestock numbers as was observed between 2024 and 2025.

By building on these successful schemes and fostering collaborative links with industry led initiatives, DAERA has a significant opportunity to further enhance the environmental sustainability of agriculture through the SAP and related programmes.

Recommendations for future agricultural policy

Recommendation 1: DAERA should clearly define what is meant by environmentally sustainable agriculture, and how it will determine when this objective has been achieved in their next Annual Progress Report.

Recommendation 2: DAERA should prioritise the full roll out of the Farming with Nature Scheme and ensure that ambitions are matched by the funding and resources needed to drive the uptake by farmers required to restore nature.

Table 5.3.4 Future agricultural policy – summary assessment

Past trends	In general, trends have deteriorated over the past 10 years. However, more recently many of the trends have stabilised or the rate of change in the negative trends has slowed. There remains a significant gap between current levels and what is needed for agriculture to be environmentally sustainable.	**Trends show a mixed picture**
Progress in the reporting period	While good progress has been made in implementing the SAP, full roll out of Farming with Nature and other key policies such as the Nutrient Action Programme, Climate Action Plan and the Ammonia Strategy are delayed.	**Limited**
Overall prospects of meeting ambitions, targets and outcomes	There are delays in the implementation of key actions and policies, a lack of adequate funding and resources required for their implementation. There are also lag times between interventions and behavioural change and ecological responses. These will be exacerbated by climate change. This means that the prospects of delivering environmentally sustainable agriculture are off track.	**Largely off track**
Robustness	The scientific evidence base underpinning the indicators of environmental sustainability of agriculture are good but contested in NI. The assessment has primarily used publicly available evidence but also expert judgement based on engagement with DAERA, the agri-food industry and eNGOs. There is uncertainty regarding the time frame between interventions and outcomes and the impact climate change will have on these.	

5.4 Energy

5.4.1 Context and commitments

Decarbonising the energy sector is essential not only for meeting emissions targets, but in safeguarding the natural environment, economy and human health.[444,445] The transition away from fossil fuels and towards indigenous renewable energy sources will help to reduce the impacts of climate change.[446] The delivery of environmentally sustainable offshore wind development can also contribute to the overall objective of achieving Good Environmental Status (GES) for the marine environment (see Chapter 2).

The EIP includes actions to further develop renewable energy resources, such as offshore wind, as well as demonstrator projects for geothermal and low-carbon heat. These are complemented by the provision of decarbonisation information, advice and support to consumers. The Executive's Energy Strategy – the Path to Net Zero (2021) sets out a vision to 2030, including the target to reduce energy-related emissions by 56%, and a longer-term ambition to achieve net zero and affordable energy by 2050.[447] The Climate Change Act (Northern Ireland) 2022 strengthens the commitments in the Energy Strategy by setting a legally binding target of at least 80% of electricity consumption in Northern Ireland from renewable sources by 2030, exceeding the 70% target in the Energy Strategy.[27]

5.4.2 Key environmental trends

A summary assessment is provided in Table 5.4.1 with further detail below. The energy sector is a producer of greenhouse gas emissions (see Chapter 7). The consumption of renewable energy provides a measure of self-sufficiency in affordable renewable energy. The energy mix in Northern Ireland means that many homes and businesses remain dependent on oil for space heating rather than gas or renewable energy. In 2024/25, 61% of homes reported oil central heating as their primary method of household heating compared to a UK average of approximately 5%.[448]

Overall energy consumption has steadily declined in recent years as measured by Gross Final Electricity Consumption, which comprises generation plus imports and minus exports, and is equivalent to total electricity demand. Between 2018 and 2025, it decreased from 9,569 gigawatt hours (GWh) to 8,755 GWh.[449]

In the last decade, there has been an overall increase in the share of electricity consumption from renewable sources located in Northern Ireland (Figure 5.4.1). However, in the short-term, there has been a statistically significant decrease from 47% in 2020 to 44% in 2025 (figures based on June rolling 12-month average).

Notably, onshore wind generation accounted for 72% (2,935 GWh) of renewable electricity generation for the year ending December 2025. This was in addition to bioenergy consisting of biomass and biogas (20%), solar (6%), landfill gas (1%) and hydro/tidal generation (1%).[449]

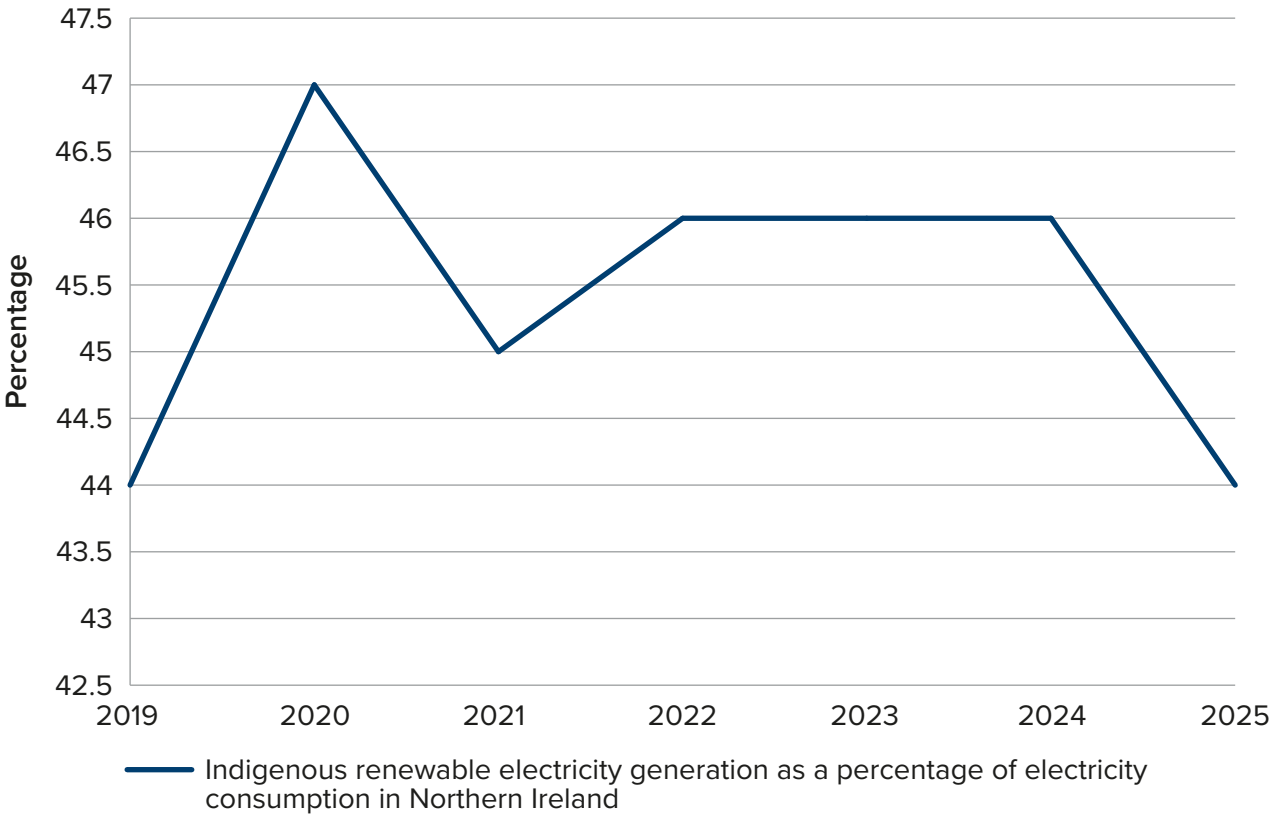


Figure 5.4.1 Indigenous renewable electricity generation as a percentage of electricity consumption in Northern Ireland[449]

Table 5.4.1 Energy – summary assessment of key short-term trends

Indicator	Indicator trend	Indicator time period
Renewable electricity generation as a proportion of gross final electricity consumption	↓	2020 – 2025

5.4.3 Progress towards ambitions, targets and outcomes

A summary assessment is provided in Table 5.4.2 with further detail below. There is a strong ambition to decarbonise the energy sector in Northern Ireland. The APR 2026 states that three of the four actions are complete.[11] These are to develop and publish an action plan to deliver at least 1 gigawatt (GW) of offshore wind from 2030, to develop and begin delivery of a geothermal demonstrator project and develop and start delivery of low-carbon heat demonstrator projects. The fourth action, to launch an energy decarbonisation information, advice and support service to consumers, is reported as progressing to a new timeline.

The Department for the Economy published a report assessing progress on the Energy Strategy Action Plan covering the 12 month period from March 2024 to March 2025.[450] The report acknowledged progress towards four specific actions associated with meeting the target of 80% of electricity consumption from renewable sources by 2030. This included actions to progress the identification of solutions to rapidly increase the quantity of onshore renewable solutions, complete modelling and financial assessment for a future renewable support scheme, identify areas for potential offshore renewable development, and publish

a new Regional Strategic Planning Policy. The Energy Strategy – The Path to Net Zero – Action Plan 2025, published in March 2025, continues to build on these actions and in some cases, rolls over actions from 2024 into 2025.[451]

The Offshore Renewable Energy Action Plan for Northern Ireland (OREAP) was published in February 2025. It sets out the objectives that have been identified as key to delivering the Energy Strategy Action Plan's initial target of at least 1 GW of offshore wind from 2030, and to enable the development of other marine renewables within Northern Ireland's marine area.[452] The 22 actions established within OREAP are acknowledged as the initial steps towards ensuring policy direction is established, any necessary legislation is brought forward, and regulatory requirements for offshore renewable energy deployment are implemented. OREAP also acknowledges the need for alignment between offshore renewable policy and the draft Marine Plan as a requirement for public authorities to consider the historic marine environment (see Section 5.5).[162]

Regarding the delivery of the Energy Strategy targets, the Northern Ireland Audit Office (NIAO) published a report concluding that the action plans to deliver the targets have significant flaws.[10] It is not possible to see which actions are established to meet each target as their intended contributions are not set out. In addition, there are no interim targets or milestones to assess the pace of progress towards them. They also highlighted the delay in monitoring and reporting on progress, with the first report published three years into the term of the Strategy. Finally, implementation of the Strategy does not appear to have considered energy related advice from the Climate Change Committee. The report makes five recommendations to improve the current action planning and reporting arrangements.

In December 2025, the Department for the Economy published the mid-term review of the Energy Strategy, reporting on progress towards the 2030 targets over the past four years.[453] It highlighted the achievements and challenges to delivery and responded to the recommendations in the NIAO report. Specifically in relation to renewable energy, it notes that issues such as grid constraints are limiting progress. Actions are being taken to address this through bringing forward the Renewable Electricity Price Guarantee (support scheme), smart meters, and flexibility measures to unlock more local renewable generation and reduce existing constraints on bringing more renewable generation onto the electricity system.

Overall, progress in the annual reporting period towards achieving at least 80% of electricity consumption from renewable sources by 2030 has been limited. While policy developments have been made, the pace of delivery and implementation has been slow.

Table 5.4.2 Energy – summary assessment of progress over the annual reporting period towards meeting targets and outcomes

Targets and outcomes	Progress
At least 80% of electricity consumption to be from renewable sources by 2030.	**Limited**

5.4.4 Prospects of meeting ambitions, targets and outcomes

A summary assessment is provided in Table 5.4.3 with further detail below.

The prospects of achieving the target of at least 80% of electricity consumption to be from renewable energy sources by 2030 are largely off track. To meet this target, renewable generation would need to almost double from the current level of 44% in the next five years, exceeding the rate of progress seen to date and significantly reversing the current trajectory.

The System Operator for Northern Ireland (SONI) states that prior to 2023, the Northern Ireland grid has been capable of having 75% of electricity flowing through it at any one time coming from variable renewable sources. However, in 2022, the actual figure was 47%, demonstrating limited development of renewable infrastructure.[454] SONI have developed plans to invest £2.23 billion in electricity infrastructure during the period 2025 to 2031. However, the Assembly notes barriers to development of additional renewables capacity, including issues relating to the grid, planning barriers and the lack of support for developers through support schemes such as the Northern Ireland Renewables Obligation, which closed to new generation in 2017.[455,456]

While actions are being taken, there is a lack of information on the extent to which they will contribute to improving prospects. The Energy Strategy sets out a pathway to 2030 that will 'mobilise the skills, technologies and behaviours needed to achieve the vision of net zero carbon and affordable energy by 2050'. To achieve this aim, actions within the EIP and future policy interventions must be coherent. They should use advancements and opportunities in renewable energy technology and remove known barriers.

The current scale and pace of delivery is not enough to close the remaining 36% gap and achieve the 80% target by 2030. In addition, further actions are unlikely to have an impact in time. The inherent lag times from planning to construction means that projects currently in development may not be connected to the grid before 2030.

Table 5.4.3 Energy – summary assessment of prospects of meeting targets and outcomes

Targets and outcomes	Prospects
At least 80% of electricity consumption to be from renewable sources by 2030.	**Largely off track**

5.4.5 Opportunities for improvement

Achieving the ambitions of the Energy Strategy will require urgent and effective implementation of the actions identified in the APR 2026 and the Energy Strategy Action Plans.

The recommendations from the NIAO highlighted significant barriers to achieving the Energy Strategy targets. Addressing these issues would improve the prospects of achieving the key targets of the Energy Strategy. It would enable assessment of the extent to which the proposed actions will deliver progress towards targets, improve governance and reporting, and update the Energy Strategy to align with the Climate Change Act (Northern Ireland) 2022.

Currently, approximately 80% of renewable electricity is generated from wind. Opportunities exist to diversify the renewable energy mix including solar and biomass. Sustainable offshore wind development also has the potential to increase renewable electricity generation and contribute to environmental objectives, including GES of the marine environment.

Additional support for the uptake of renewable energy at local and domestic levels presents the opportunity to move a significant proportion of the population away from oil central heating. This would support the transition to renewable energy, reduce GHG emissions, reduce reliance on imported oil and mitigate local environmental impacts by reducing transport requirements and leakage of oil to the ground and water.

Recommendations for energy

Recommendation 1: The Department for the Economy should develop a delivery plan to meet the renewable energy target contained within the Climate Change Act (Northern Ireland) 2022, initially towards 2030, and then beyond to 2050.

Recommendation 2: The Department for the Economy should undertake a robust, publicly consulted, feasibility assessment of proposed actions within the Energy Strategy Action Plan. It should commission a review of the effectiveness of governance and performance reporting arrangements to achieve the Energy Strategy targets to support delivery planning.

Table 5.4.4 Energy – summary assessment

Past trends	Energy consumption has steadily declined in recent years. Renewable energy generated from metered renewable sources in Northern Ireland has risen initially from 25% in 2016 to a baseline value of 47% in 2020 but significantly declined to 44% in 2025.	**Deteriorating trends dominate**
Progress in the reporting period	The publication of the Offshore Renewable Energy Action Plan for Northern Ireland is a significant development towards increasing the percentage of renewable energy development in Northern Ireland. However, the pace of delivery and implementation has been limited.	**Limited**
Overall prospects of meeting ambitions, targets and outcomes	The prospect of delivering 80% of energy from indigenous renewable sources by 2030 is largely off track. Developing additional renewable energy sources requires planning and investment. It is unlikely that sufficient developments will be in place and operational in time to achieve the overall 2030 target.	**Largely off track**
Robustness	The assessment has primarily used publicly available data and evidence along with expert judgement.	

5.5 Productive and sustainably used seas

5.5.1 Context and commitments

As an island society, achieving productive, sustainably used seas is important for securing the economy and safeguarding the long-term health of the marine environment. The Northern Ireland marine area spans over 650 km of coastline with over 6,800 km^2 of sea area comprising both inshore and offshore areas.[457] It is important for a range of

internationally important habitats and species, supports a wide range of activities, including commercial fisheries, aquaculture, and shipping, and is a place of recreation and work for many. Interest in developing renewable energy technologies such as offshore wind, wave and tidal energy has also increased in recent years.[458]

The overarching target for protecting and restoring the marine environment is the achievement of GES as defined by the Marine Strategy Regulations 2010 (see Box 2.3, Chapter 2).[148] The Marine and Coastal Access Act 2009, and the Marine Act (Northern Ireland) 2013, require DAERA as the Marine Plan Authority, to prepare marine plans.[459,460] The Marine Plan is developed within the framework of the 2011 UK Marine Policy Statement.[461] The Marine Act (Northern Ireland) 2013 also makes provisions for the designation of nationally important Marine Conservation Zones (MCZs) and provisions for marine licencing for generating stations.

The Marine Plan for Northern Ireland was publicly consulted on in 2018 and remains unpublished.[162] However, it is to be regarded as a material consideration in its current form and is intended to inform and guide the regulation, management, use and protection of the marine area. The Marine Plan will primarily be used by public authorities taking decisions that affect, or might affect, the marine area by providing a framework of policies to be considered in any decision making process. The Marine Plan will come into effect when it is published in its final form. The UK Government's 25-year Environment Plan committed to having UK Marine Plans in place by 2021.[462]

The legislative framework for fisheries management is provided through the Fisheries Act 2020, which sets out eight fisheries objectives.[463] The Fisheries Act (2020) is not intended to detail specifics for how these objectives will be achieved. Instead it sets out provisions for the four national fisheries authorities in the UK, including DAERA, to produce a Joint Fisheries Statement (JFS) that will detail plans for meeting the fisheries objectives.[464] The JFS, amended in 2024 to extend the delivery timetable for the development of Fisheries Management Plans (FMPs), acknowledges the deep relationship between commercial fisheries and the health of the ecosystem in which they operate.[465]

As detailed in the JFS, national fisheries policy authorities are required to jointly publish individual FMPs for those stocks that are of social and economic importance, are at risk of significant over-exploitation, and have ecosystem significance. FMPs will focus on the sustainable management of stocks. However, the scope of an FMP may be extended to consider wider fisheries management issues covering environmental, social and economic concerns. For example, there is a statutory obligation on national 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. DAERA is required to publish four FMPs for Northern Ireland. These are the Irish Sea demersal FMP, the Irish Sea pelagic FMP, the Northern Ireland non-quota shellfish FMP, and the Northern Ireland intertidal hand gathering of shellfish FMP.[466]

Fisheries and aquaculture in the UK and Ireland are increasingly under pressure from climate change.[467] The Fisheries Act (2020) 'fisheries objective' h) aims to ensure that 'the adverse effect of fish and aquaculture activities on climate change is minimised' and that 'fish and aquaculture activities adapt to climate change'. The JFS sets out the UK's approach to implementing this objective by 'identifying and supporting changes to adapt to and mitigate climate change, including reducing emissions across the fishing industry to support decarbonisation'. The Climate Change Act (Northern Ireland) 2022 includes a provision requiring DAERA to develop and publish a sectoral plan for fisheries, setting out how the

fisheries sector will contribute to meeting the 2030, 2040, and 2050 emissions reduction targets.[27]

The EIP contains a target that by 2030 all fish stocks are recovered to and maintained at levels that can produce their maximum sustainable yield (MSY), within the constraints of climate change. Achieving this target is supported by actions that fall into two categories, namely sustainable fisheries management and enabling policy and environmental conditions.

5.5.2 Key environmental trends

A summary assessment is provided in Table 5.5.1 with further detail below.

At a UK level, the most recent assessment of progress towards GES of the marine environment in 2026 showed that of the 15 ecological components used to inform an assessment of progress, seven are categorised as not met, three are partially met, two are GES met and three are GES uncertain.[152] This represents a decline from the 2018 assessment where four were categorised as GES achieved, five as GES partially achieved and six as GES not achieved (see Chapter 2).[153]

The 2026 assessment shows improvement for commercially exploited marine quota fish and non-quota shellfish stocks. The GES criteria for both indicators of fishing pressure and reproductive capacity were met for 42% of quota fish stocks and 11% of non-quota shellfish. This was an increase of 9% and 6%, respectively, since the last assessment in 2018. The status of 21% of quota fish and 52% of non-quota shellfish remains unknown due to insufficient data. Therefore GES for this ecological component is assessed as partially met.[153]

Between 2015 and 2020, data for 57 stocks show a statistically significant improvement with an increase of 18.5% in the percentage of fish and shellfish stocks of UK commercial interest that are considered to be within safe biological limits and fished sustainably.[468] 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 (ICES). 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.[469]

Recent data show continued fishing pressure on offshore stocks in Northern Ireland. The APR 2026 reports on the ICES 2026 advice and status for seven key stocks: cod (*Gadus morhua*), haddock (*Melanogrammus aeglefinus*), whiting (*Merlangius merlangus*), plaice (*Pleuronectes platessa*), sole (*Solea solea*), herring (*Clupea harengus*) and nephrops (*Nephrops norvegicus*). For five species: haddock, plaice, sole, herring and nephrops, the APR reports ICES 2026 advice for a reduction in landings, indicating poor stock status. Cod continues to be subject to zero TAC advice due to ongoing stock collapse.[470] ICES advises an increase for whiting landings as a result of the 2025 benchmarking and revision of data. This has resulted in an increase from the previous zero-catch advice to a recommendation for removal of no more than 200 tonnes for whiting. For offshore stock advice, there has been a general trend in recent years for reductions and restrictions. However, there has been some stock-specific variability and occasional uplifts in quota recommendations where evidence allows.

For inshore stocks, the annual stock advice sheets produced by the Agri-Food and Biosciences Institute provide a summary of individual stock analysis, trends and landings advice for five key inshore species: brown crab (*Cancer pagurus*), velvet crab (*Necora puber*), lobster (*Homarus gammarus*), king scallop (*Pectin maximus*) and queen scallop (*Aequipecten opercularis*). Trends for these species in the reporting period are mixed. Three species: brown crab, velvet crab and queen scallops, are recommended for a reduction in landings, in line with reduced or declining Landings per Unit Effort or, in the case of queen scallops, a reduction in line with the survey index. Landings for two species, lobster and king scallops, are considered to be in better health, and therefore may be increased in line with an increasing Landings per Unit Effort and length indicator and increasing survey index respectively.[471]

Climate change is not often listed as a primary driver for failure to meet GES, but seas are getting warmer, more acidic and more oxygen depleted, putting increasing pressure on vulnerable marine ecosystems.[472] The Marine Climate Change Impacts Partnership provides an annual summary of published evidence on a range of topics related to climate change impacts at the coast and in the seas around the UK and Ireland, including aquaculture and fisheries.[473] In a focus on fisheries it noted that many recent studies have characterised shifts in the distribution of fish and shellfish around the UK and Ireland that correlate with observed climate change. Cold-water species have declined in both abundance and geographical range whilst observations of warm water species have been increasing.[474]

Table 5.5.1 Productive and sustainably used seas – summary assessment of key short-term trends

Indicator	Indicator trend	Indicator time period
For commercial offshore stocks		n/a
For commercial inshore stocks		n/a

5.5.3 Progress towards ambitions, targets and outcomes

The APR 2026 reports progress in eight actions focused around three key areas: marine planning and offshore development, sustainable fisheries and aquaculture, and climate change scenarios and adaptation. Delivery of water quality objectives to support the aquaculture industry is assessed in Chapter 2. A summary assessment is provided in Table 5.5.2 with further detail below.

The actions listed in the EIP begin to form a comprehensive baseline from which to assess progress towards the future vision and outcomes for productive and sustainably used seas. However, the APR 2026 states that of the eight actions and targets, half are progressing to a new timeline, indicating limited progress.

In January 2025, Defra published the UK Marine Strategy Part Three (UKMS Part Three) three years after the 6 yearly statutory deadline and nearly a decade after the first iteration was published.[160] 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, including in Northern Ireland waters (see Chapter 2). Delays in developing indicators, the lack of thresholds for non-quota stocks, and data limitations hinder progress in meeting GES for commercially exploited fish.

During the reporting period, the Marine Plan for Northern Ireland remained in draft form and unpublished.[162] The APR 2026 reports development as progressing to a new timeline. It states that the plan remains in draft form to allow the Marine Plan Energy Policy to be updated to align with the requirements of the Energy Act 2023, and to ensure that the Marine Plan is consistent with the requirements of the Climate Change Act (Northern Ireland) 2022.[475,27] Given the time that has elapsed since the initial consultation in June 2018, the pace of progress is slow. The Marine Plan, in draft form, is required to be treated as a material consideration in decision making. However, given that it is eight years since the initial consultation, the draft version will be significantly out of date and not reflect recent policy developments.

The EIP and JFS committed DAERA to consulting on and publishing four FMPs by December 2024. In December 2024, the JFS was amended to extend the publication deadline for these four FMPS and other FMPs across UK devolved administrations to December 2026. The APR 2026 acknowledges that capacity and resourcing issues have impacted delivery times, and that addressing evidence gaps in the inshore fisheries sector is required to underpin FMP measures.

In July 2025, DAERA consulted on the Fisheries and Water Environment Bill for Northern Ireland.[476] The proposed Bill intends to modernise the Fisheries Act (Northern Ireland) 1966 so that it is consistent with the ecosystem-based approach to fisheries management framework provided by the Fisheries Act 2020.[477,478] In particular, new legislation is needed to manage aquaculture and inland fisheries. Further legislative development of the Fisheries and Water Environment Bill is expected in 2026.

The Climate Change Act (Northern Ireland) 2022 sets the provisions for DAERA to develop and publish sectoral plans for seven sectors specified in the Act, including the fisheries sector.[27] During the reporting period, DAERA consulted to gather views on the establishment of the Just Transition Commission for Northern Ireland, including the development of sectoral plans and how sectors are to achieve the emissions reduction targets in the Act while supporting a just transition.[479] Also, in relation to climate change and fisheries and aquaculture, the APR 2026 reports that the evaluation of climate change scenarios, potential impacts, and adaptation actions is complete or ongoing.

Progress towards the EIP target has been limited. In recent years there has been positive developments towards establishing a fisheries management framework that can deliver sustainable fisheries. However, the pace of progress during the reporting period has been slow with many key actions delayed or progressing to new timelines.

Table 5.5.2 Productive and sustainably used seas – summary assessment of progress over the annual reporting period towards meeting targets and outcomes

Targets and outcomes	Progress
By 2030: Ensure that all fish stocks are recovered to and maintained at levels that can produce their maximum sustainable yield, within constraints of climate change.	**Limited**

5.5.4 Prospects of meeting ambitions, targets and outcomes

The overall prospects of achieving the EIP target are largely off track. A summary assessment is provided in Table 5.5.3 with further detail below. While the APR 2026 provides valuable insight into progress, specific details on the status and trends of individual stocks are required to provide a fuller, more robust picture of the prospects for recovering and maintaining all stocks at levels that can produce MSY by 2030.

From the APR 2026 it remains unclear how far removed each individual stock is from achieving MSY or equivalent sustainability by 2030. In April 2026, DAERA published a consultation on the draft Non-Quota Shellfish in Northern Ireland FMP.[480] They also informed us that progress towards the publication of the Irish Sea Pelagic FMP and Irish Sea Demersal FMP in 2026, and Intertidal Hand-gathering of Shellfish FMP by 2027 is being made. Each FMP must provide a clear pathway to delivering and maintaining MSY or equivalent and address the barriers and opportunities for meeting this target for each specific stock. In addition, providing accessible information such as the total allowable catches for Northern Ireland stocks relative to scientific advice and respective management areas, particularly where stocks transcend multiple jurisdictions, will help identify priority areas for improvement.

The new fisheries framework provided through the Fisheries Act (2020), JFS, and the delivery mechanism of FMPs, represents an opportunity to reshape fisheries policy, develop new policy levers with new funding mechanisms, and deliver measurable progress towards maximum sustainable yield and sustainable fisheries.[478,464,466]

In March 2026, the UK Government published the first report assessing how far the JFS policies have been implemented since publication in November 2022 and the extent to which they have contributed to the eight Fisheries Act (2020) fisheries objectives.[481] The report marks a positive addition to the fisheries framework, including detailing how the national fisheries authorities are working together and in partnership with stakeholders to improve fisheries management across jurisdictions. It concludes by setting out a future work programme that commits national fisheries policy authorities to the ongoing evaluation of the policies they are implementing to ensure that they contribute to achieving the fisheries objectives.

Box 5.2 Migratory fish and inland fisheries

Northern Ireland's aquatic environments include extensive freshwater systems, estuaries and marine and coastal waters extending along more than 650 km of coastline.[482,483] These aquatic ecosystems are diverse and ecologically important providing feeding, breeding, spawning and migratory habitats for locally and internationally important populations of migratory fish species including Atlantic salmon *(Salmo salar*), sea trout (*Salmo trutta*) and European eel (*Anguilla anguilla*).

The Atlantic salmon population has declined by 70% in the last 25 years. The species is now classified as endangered by the International Union for Conservation of Nature (IUCN).[484] It is a protected species under the EU Habitats Directive and also listed as a threatened species under the OSPAR Convention. While no longer commercially exploited due to population declines,[485] the species is important for angling and tourism, particularly in the north western region in the Foyle catchment.[486] The population decline in Atlantic salmon population has been attributed to a range of factors including climate change, shifting marine feeding, habitat loss and degradation, overexploitation and pollution which have serious impacts on survival at all life stages.

Box 5.2 Migratory fish and inland fisheries (cont.)

The European eel has declined by 95% in the last 40 years and is listed as critically endangered on the IUCN Red List.[487] Since 2022, the International Council for the Exploration of the Seas (ICES) has advised that there should be zero catches in all habitats for European eel.[488] The eel is of significant historical commercial and cultural value, having been commercially fished in Lough Erne and the Lough Neagh/Bann catchment for hundreds of years.[489] Commercial fishing for eel on the transboundary Lough Erne catchment ceased in 2010,[490] but European eel continue to be commercially exploited within the Neagh-Bann system.[491] More recently, commercial fishing for eel in Lough Neagh has declined, notably in 2025 when eel fishing ceased due to concerns from the continental market of reduced eel fat content. This has been speculated to be caused by changing water quality and environmental challenges within Lough Neagh.[492]

The EIP does not refer to freshwater fish species or inland fisheries. Migratory species are important ecological and economic components of aquatic ecosystems. Addressing the drivers of their decline is vital to improving their conservation status and for supporting the economic and cultural benefits they provide.

Table 5.5.3 Productive and sustainably used seas – summary assessment of prospects of meeting targets and outcomes

Targets and outcomes	Prospects
By 2030: Ensure that all fish stocks are recovered to, and maintained at, levels that can produce their maximum sustainable yield, within constraints of climate change.	**Largely off track**

5.5.5 Opportunities for improvement

Achieving productive and sustainably used seas will require speeding up progress towards GES, publishing FMPs that incorporate MSY or equivalent data, completing and publishing the Marine Plan for Northern Ireland, and developing a dedicated sectoral plan for the just transition of fisheries under the Climate Change Act (Northern Ireland) 2022.

The APR 2026 was relatively transparent about the reasons for delays and changes to delivery timelines. This helps address barriers and identify opportunities to speed up implementation. It is clear that a lack of capacity and resources present a significant barrier to delivery. Although the actions demonstrate some degree of coherence by addressing general themes such as marine planning, fisheries, and climate, they remain fragmented, and there is insufficient evidence of thorough consideration of trade-offs that could lead to conflicts.

Ensuring healthy fish populations does not depend solely on fishing at environmentally sustainable levels. Healthy fish populations depend on a healthy marine environment and adopting and implementing an ecosystems-based approach to fisheries management is essential. Achieving GES provides a fundamental opportunity to enhance the sustainability of commercial fishing activities at sea, alongside restoring the marine environment. Improved understanding and characterisation of Northern Ireland's specific contribution to UK GES will enable better assessment of progress towards, and the prospects of meeting GES and wider marine targets.

The Marine Plan for Northern Ireland is intended to provide a strategic framework for balancing environmental protection and restoration with economic development and commercial activities. It aims to guide the sustainable use of marine resources, support conservation efforts, and inform decision making and planning across sectors such as fisheries, tourism, and future infrastructure. Its publication and application across all relevant departments, agencies and sectors will help establish a clear pathway to meeting sustainable use of the seas and enhance marine management.

FMPs present a significant opportunity to set out a pathway for sustainable fisheries. Ensuring that FMPs deliver the fisheries objectives within the Fisheries Act 2020 – alongside providing clear actions for implementation and effective delivery towards specific stock management targets – will increase the likelihood of meeting the 2030 target of recovering and maintaining all fish stocks at levels that can produce their maximum sustainable yield. Additionally, the integration of environmental drivers such as climate change and ecosystems interactions in future MSY assessments and modelling, will help to transition fisheries management towards an ecosystem-based approach and to more comprehensive sustainability advice.

Climate change presents a range of challenges for the marine environment, including commercial fisheries. FMPs also provide an opportunity to consider and mitigate against the impacts of climate change. In addition, the Climate Change Act (Northern Ireland) 2022 provisions to produce sectoral plans will also allow fisheries, including inland fisheries, to adopt a just transition towards climate-smart fisheries and to set out a pathway to reduce sectoral emissions by 2030 and beyond.

Recommendations for productive and sustainably used seas

Recommendation 1: DAERA should prioritise the development and publication of Fisheries Management Plans by December 2026 and establish a clear pathway towards meeting sustainable fisheries for all stocks.

Recommendation 2: Subject to Executive approval, DAERA should publish and implement the delayed Marine Plan for Northern Ireland.

Table 5.5.4 Productive and sustainably used seas – summary assessment

Past trends	Pressures on the marine environment remain high and are impacting on commercial sectors that rely on healthy seas. It is not possible to assess Northern Ireland's contribution to Good Environmental Status (GES). At the UK level there is general movement away from GES but commercially exploited fish and shellfish have improved from GES not met to GES partially met since 2018. It has not been possible to assess a general trend regarding maximum sustainable yield across multiple stocks for inshore and offshore stocks.	**Trends show a mixed picture**
Progress in the reporting period	The Marine Plan for Northern Ireland remains unpublished and in draft form. Fisheries Management Plans (FMPs) were due for publication in December 2025 and have now been delayed to December 2026. The Fisheries and Water Environment Bill was consulted on from September to November 2025.	**Limited**
Overall prospects of meeting ambitions, targets and outcomes	The draft Marine Plan for Northern Ireland is likely to have changed since consultation in June 2018. It is unclear how it will contribute to meeting effective marine planning requirements. FMPs are key mechanisms for setting out the barriers and opportunities for managing fisheries sustainably. They need to be published and implemented effectively, along with signs of improving MSY delivery by 2030 if targets are to be achieved	**Largely off track**
Robustness	Northern Ireland's contribution to UK Marine Strategy GES remains unclear. In the absence of FMPs, it is difficult to assess progress and prospects towards sustainability targets for all Northern Ireland specific stocks. The assessment has primarily used publicly available monitoring data and evidence along with expert judgement.	

5.6 Producer responsibility

5.6.1 Context and commitments

Producer responsibility seeks to apply the polluter pays principle, making producers of products financially responsible for the end-of-life impacts of their products that would otherwise become the responsibility of the public sector.[493]

Producer responsibility measures require producers to minimise waste arisings and promote their reuse, ensure that waste products meet recovery and recycling targets for waste materials, and design products to reduce waste and enhance reusability and recyclability.[493]

In the UK, producer responsibility laws cover packaging, waste electrical and electronic equipment (WEEE), batteries, and end-of-life vehicles (ELV). In addition, EU producer responsibility regulations also apply to Northern Ireland under the Windsor Framework.[494] The EU framework is diverging from that of the UK in a number of areas, including recyclability of packaging, minimum recycled content (and their respective compliance periods), and restrictions on certain packaging formats, such as single-use shrink wrap.[495,496]

The EIP commits to phase in the new UK-wide Packaging Extended Producer Responsibility (pEPR) scheme from 2025, increase the overall recycling of packaging by 2031; and from 2025, recover at least 80% of the full net costs of (managing waste) packaging contributed by producers. At present, producers cover approximately 10% of the costs of packaging waste.[171]

A deposit return scheme (DRS) places a refundable deposit on drinks containers such as plastic bottles, metal cans, or glass bottles. Consumers pay a small deposit when buying a drink and receive it back when returning the empty container to a designated collection point. The DRS is designed to encourage correct disposal by incentivising returns, improve recycling rates by generating a high-quality stream of materials, and reduce littering to help meet wider waste and circular economy goals (see Chapter 6). The EIP commits to introducing a DRS for drinks containers from 2027 and to increase the recycling of drinks containers from 70% to 90% by 2028.

Regarding ELVs, the EIP commits to, by the end of 2025, working in partnership with other devolved administrations to undertake stakeholder engagement and evidence gathering. ELV regulations require that manufacturers and importers meet the recycling and recovery target of 95% for vehicles. ELVs must also be processed at an authorised treatment facility, where depollution, including removal of batteries, fuel and oil can take place.[497] While the UK and EU remain aligned on ELV regulation, the EU is currently progressing a draft regulation to transition from a linear to a circular economy for the automotive sector, which will apply to Northern Ireland under the Windsor Framework. It is expected that the UK regulatory framework will be reviewed in 2026/2027.[498]

Electrical and electronic equipment (EEE) is regulated to reduce the amount of WEEE that is incinerated or sent to landfill sites. Reduction is achieved through various measures that encourage the recovery, reuse and recycling of products and components, with obligations placed on producers and distributors, including online marketplaces that operate in the UK.[499] The EIP commits to contributing, by March 2024, to the development of a UK-wide consultation on the reform of producer responsibility for WEEE.

Producer responsibility further supports the objectives of the Climate Change Act (Northern Ireland) 2022 which includes a requirement to recycle at least 70% of waste by 2030 and the Waste (Circular Economy) (Amendment) Regulations (Northern Ireland) 2020 target of preparing for the re-use and recycling of at least 65% of municipal waste by weight by 2035.[53,138,500,501]

It is further anticipated that producer responsibility will be central to the forthcoming Circular Economy Strategy and Resources and Waste Management Strategy for Northern Ireland which is expected to contain interim municipal recycling targets of 55% by 2025 and 60% by 2030.[502,503]

5.6.2 Key environmental trends

A summary assessment is provided in Table 5.6.1 with further detail below.

There are currently no data available for producer responsibility indicators. DAERA expects that initial data for packaging recycling rates and the percentage of full net costs contributed by packaging producers will be available in the second half of 2026.[40] Data on the percentage of drinks containers recycled will be available from 2029, following the start of the scheme in 2027.

In addition to being the primary policy driver for improvements to their specific waste streams, producer responsibility is also central to increasing overall recycling levels. The pEPR will move the cost of dealing with household packaging waste away from taxpayers and local councils to the packaging producers, placing responsibility for the costs of their

packaging throughout its life cycle to producers. This will encourage producers to reduce their packaging use and choose packaging that is easier to recycle.[504]

Packaging recycling as a percentage of overall packaging collections is currently not available. However, data from the National Packaging Waste Database show that in terms of tonnage recycled, between 2019 and 2024, levels increased by 10.7%, driven by increased recycling of paper, glass, aluminium, plastic, and wood packaging (Figure 5.6.1).[505]

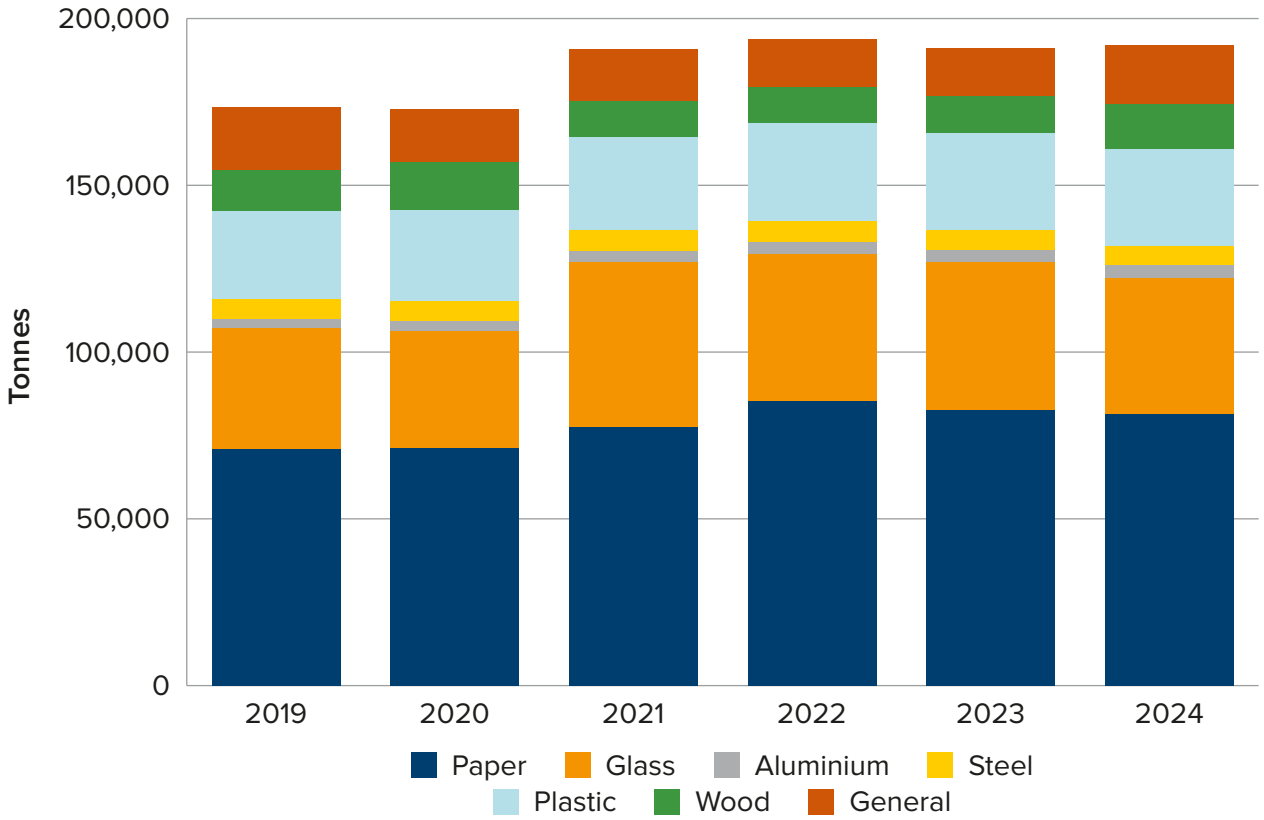


Figure 5.6.1 Recycling of packaging in Northern Ireland[505]

While there are currently no specific data on the recycling of drinks containers, it has been estimated that in 2021, in the UK over eight billion drinks bottles and cans were disposed of as residual waste rather than being recycled.[506,507]

It is estimated that between 1.6 and 2 million end-of-life vehicles arise in the UK each year. Although data is collected for licensed authorised treatment facilities, with notifications made to the Driver and Vehicle Licensing Agency, summary statistics for Northern Ireland are not readily available.[508–510]

Table 5.6.1 Producer responsibility – summary assessment of key short-term trends

Indicator	Indicator trend	Indicator time period
Packaging recycling rates	⊗	n/a
Percentage of full net costs contributed by packaging producers	⊗	n/a
Increase of recycling of drinks containers from 70-90% by 2030	⊗	n/a

5.6.3 Progress towards ambitions, targets and outcomes

A summary assessment is provided in Table 5.6.2 with further detail below.

The APR 2026 details legislative and regulatory progress with producer responsibility during the reporting period. It reports that pEPR legislation was enacted in December 2024, followed by the appointment of the scheme administrator, PackUK, in January 2025.[511] The scheme subsequently went live in April 2025 with 2025 payment levels being confirmed to local councils.

A UK joint policy statement on pEPR was published as required by the Packaging Regulations 2024. This set out the outcomes expected of the scheme administrator PackUK.[512] PackUK subsequently published its interim strategy outlining how it is delivering the scheme in the short-term and its operational plan 2024 to 2025. This includes the establishment of the producer responsibility organisation – the independent, not-for-profit, producer-led body that will work alongside PackUK to deliver the pEPR scheme.[511,513]

PackUK also published its recyclability assessment methodology 2025 to 2030 roadmap, which details milestones for the pEPR scheme. The roadmap contains the timing of annual policy alignment reviews that relate to the devolved administrations' waste and resources strategies to ensure alignment with developments at national level while considering changes at international level.[514]

In November 2024, PackUK published its estimates for local council basic payments for the first year of the scheme (April 2025 to March 2026).[515] Payments to local councils in Northern Ireland were confirmed by Defra to be approximately £51 million in February 2026.[516]

Legislation was also introduced for DRS, which facilitated the appointment of the Deposit Management Organisation in May 2025. The Deposit Management Organisation subsequently unveiled its trading name – Exchange for Change. It has been formed with Board members from the businesses that will be impacted by DRS. Exchange for Change will run the scheme in England, Northern Ireland and Scotland, with implementation from October 2027.[517–519]

Regarding WEEE, the Waste Electrical and Electronic Equipment Regulations 2013 were amended in August 2025 to add vapes and to include online marketplaces as producers with responsibility to manage WEEE sold in the UK. Online marketplaces not established in

the UK will be required to join a WEEE compliance scheme or appoint a representative to meet their obligations.[520]

The APR 2026 states that there are no notable delays and that good progress has been made in advancing pEPR funding to local councils. However, it also acknowledges that further work is needed as the schemes develop to ensure delivery against their primary objectives. Although it is a UK-wide initiative, progress on ELVs is now proceeding to a new timeline.

Overall, progress has been mixed and largely focused on downstream elements of the system, particularly recycling and waste management, with comparatively limited evidence of measures targeting higher-value circular economy outcomes.

Table 5.6.2 Producer responsibility – summary assessment of progress over the annual reporting period towards meeting targets and outcomes

Targets and outcomes	Progress
From 2025: at least 80% of full net costs of packaging contributed by producers.	**Good**
By 2028: Increase recycling of drinks containers from 70% to 90%.	**Mixed**
By 2031: Increase overall recycling of packaging to 76%.	**Mixed**

5.6.4 Prospects of meeting ambitions, targets and outcomes

Overall, the lag time between the launch of the pEPR and DRS schemes – and the achievement of the scale of change needed to meet the targets within the timeframe – means the prospects of achieving producer responsibility commitments are largely off track. A summary assessment is provided in Table 5.6.3 with further detail below.

The APR 2026 acknowledges that producer responsibility will be central to the new Resources and Waste Management Strategy for Northern Ireland and the forthcoming Circular Economy Strategy. It will also contribute to the objectives of both the draft Climate Action Plan and the Climate Change Act (Northern Ireland) 2022. In addition, the APR 2026 acknowledges that more work is needed as the producer responsibility schemes develop to ensure delivery against the primary objectives. However, it does not indicate the development of any delivery plans for producer responsibility measures, or actions to develop the indicators required to monitor and assess progress.

The prospects of meeting the target that, from 2025, at least 80% of the full net costs of packaging will be contributed by producers is largely on track. The pEPR scheme began operations in March 2025. While the percentage of costs covered has yet to be published, local councils have now been notified by the scheme administrator of how much they will be paid for the first year.[515]

However, some uncertainty remains with the implementation of pEPR. The scheme administrator, PackUK, and the producer responsibility organisation, Packaging PRO which will handle the practical implementation of the new pEPR guidelines have been appointed.[521] However, the scheme also includes a range of enforcement mechanisms to ensure that obligated producers comply with their legal responsibilities, with monitoring undertaken by environmental regulators.[522] The powers are in place, but the level of

compliance by businesses and the effectiveness of monitoring and enforcement by regulators are unclear.

The UK government has stated that pEPR funds provided to local councils must be used to deliver improved packaging waste collection services.[522] However, in advance of the scheme, it is unclear how well local councils have prepared for the significant increase in packaging to be managed under pEPR. There could be a time lag between delivery of the necessary investment and the delivery of increased collection rates.

When considering the impact of modulated fees, Defra's impact assessment for the introduction of pEPR suggests that the recycling rate for packaging in the UK will increase to around 76% by 2034, rather than 2031, which is the EIP target. While this represents a 13% increase on 2021 levels, the lack of data on current rates for Northern Ireland inhibits a Northern Ireland specific impact assessment.[523,524] However, assuming developments are consistent with the UK level assessment, the prospect of meeting the 2031 target is largely off track.

Regarding the target to increase recycling of drinks containers from 70% to 90% by 2028, Defra's impact assessment for the introduction of a DRS in England and Northern Ireland is that, although ambitious, achieving a 90% return rate is not unrealistic. It cites European DRS schemes that exceed this, including those in Finland (96%), Germany (98%), and Norway (92%), which employ schemes similar to the UK return-to-retail model.[525]

The assessment assumes return rates of 70% in the first full year of DRS implementation, 80% in the second, and 90% in the third year. However, as implementation of DRS is not expected until 2027 (assuming current packaging recycling rates are 70%), reaching 90% by 2028 appears unlikely. This has likely been recognised by DAERA, as the APR 2026 reports that the target is now to increase the recycling of drinks containers from 70% to 90% by 2030. This would be consistent with a three-year implementation timeline beginning in 2027.

Table 5.6.3 Producer responsibility – summary assessment of prospects of meeting targets and outcomes

Targets and outcomes	Prospects
From 2025: at least 80% of full net costs of packaging contributed by producers.	**Largely on track**
By 2028: Increase recycling of drinks containers from 70% to 90%.	**Largely off track**
By 2031: Increase overall recycling of packaging to 76%.	**Largely off track**

5.6.5 Opportunities for improvement

There is an opportunity to ensure coherence among producer responsibility, waste management, circular economy, and climate policies, while further implementing the Environmental Principles Policy Statement and the waste hierarchy.[526,527] Application of the Environmental Principles Policy Statement and the waste hierarchy in identifying and developing existing and future producer responsibility schemes would support progress.

From a circular economy perspective, producer responsibility represents a significant policy lever with the potential to support upstream change in product design, material use and resource efficiency. However, current implementation is still largely oriented toward financing and improving downstream waste management systems, particularly recycling and collection infrastructure.

While recent reforms such as extended producer responsibility for packaging and the introduction of deposit return schemes are important developments, the emphasis remains predominantly on recovery rather than higher-tier waste hierarchy objectives such as waste prevention, reuse and extension of product lifespans. Strengthening the integration of reuse incentives and upstream waste prevention measures would enhance alignment with circular economy objectives and increase the transformational impact of these schemes

Currently, pEPR payments to local councils are intended to cover the net costs of collecting, managing, recycling, and disposing of household packaging waste, and may also be used to streamline collections, build new infrastructure, or upgrade facilities.[522] However, ensuring that funds are also made available for waste prevention and circular economy activities would provide a significant opportunity to implement actions and innovations that would improve the prospects of achieving producer responsibility targets, support the transition to a circular economy, minimise resource use, and support the management of materials and waste.

Defra states that there will be a review of the impact of pEPR in the 2027/28 financial year. This will focus on aspects such as extending payments to non-household packaging, whether data collection is sufficient, and the payment thresholds for business turnover and packaging supplied. This review provides an opportunity to further develop the current arrangements and improve prospects of achieving the 2031 target of increasing overall packaging recycling to 76%.[524]

There is also the opportunity to maximise the effectiveness and ambition of UK producer responsibility schemes in development (for example, WEEE, batteries, ELVs and chewing gum) and the approach to new and innovative schemes. Taking an all-island approach to producer responsibility will also reduce dual-compliance between EU and UK producer responsibility schemes and raise the ambition and coherence of new schemes.[495]

Recommendations for producer responsibility

Recommendation 1: DAERA should ensure that enough resources are committed to deliver the existing producer responsibility schemes at the scale and pace needed to meet EIP targets.

Recommendation 2: DAERA should ensure that existing producer responsibility schemes and those in development are coherent with waste management, circular economy and climate policies, and seek to play a leading role in reducing dual compliance for producer responsibility and increasing ambition across the UK and Ireland.

Table 5.6.4 Producer responsibility – summary assessment

Past trends	It has not been possible to assess trends in recycling of packaging and drinks containers and the costs contributed by packaging producers, due to the schemes being in their early stages. Other data suggest that in terms of volume, recycling of packaging has increased during the reporting period.	**Not assessed**
Progress in the reporting period	Legislation has been adopted and the delivery bodies continue to work towards full commencement of pEPR and DRS, though more work is needed as the schemes develop to ensure delivery against their objectives. At UK level, work on end-of-life vehicles has been delayed, but progress with WEEE by bringing vapes and online marketplaces into regulation has been delivered.	**Mixed**
Overall prospects of meeting ambitions, targets and outcomes	Payments to local councils through pEPR have been confirmed. However, the impact assessments for both pEPR and DRS suggest the period between the start of the schemes and delivery of the required improvements to meet the targets is too short for them to be achieved.	**Largely off track**
Robustness	The assessment has used sources of publicly available information and expert judgement. Key data gaps exist for indicators that enable monitoring of progress against targets.	

5.7 Chemicals

5.7.1 Context and commitments

Many chemicals harm the environment and human health so managing exposure to them and their impacts is essential. Sustainable use of chemicals supports the industries that rely on them and contributes to a range of EIP outcomes such as improved environmental quality and a circular economy. The chemicals industry in Northern Ireland has been estimated to employ 2,700 to 2,850 people with a gross value added of approximately £293 million in 2023.[528]

A 2020 analysis of national and regional chemical inventories found more than 350,000 chemicals and chemical mixtures registered for production and use globally.[529] The rapid emergence of new substances and uses is outpacing regulators' ability to assess and manage risks. Moreover, chemicals are often evaluated individually, so the combined effects of mixtures remain poorly understood.

The EIP includes international commitments to address chemical pollution relating to the Stockholm Convention on persistent organic pollutants (POPs).[530] The Stockholm Convention aims to protect human health and the environment by prohibiting, phasing out as soon as possible, or restricting the manufacturing, placing on the market, and use of substances subject to the Convention. POPs meet four key criteria: they are persistent, toxic, bioaccumulative, and capable of long-range environmental transport across international borders.

In Northern Ireland, the Convention is implemented through Regulation (EU) 2019/1021, which applies directly under the Windsor Framework (Box 5.3).[531] The EIP commits to substantially increasing the amount of POPs being destroyed or irreversibly transformed by 2030, and to eliminating the use of polychlorinated biphenyls (PCBs) by 2025. Other relevant international commitments include the Minamata Convention on Mercury, which

commits Northern Ireland to reduce land-based emissions of mercury and mercury compounds, and the Kunming-Montreal Global Biodiversity Framework, which includes a target to reduce pollution to levels that are not harmful to biodiversity by 2030.[532,249]

This SEO also includes a range of actions to address antimicrobial resistance. These include monitoring, data collection on antimicrobial sales and use and development of a public facing antimicrobial resistance digital platform.

Box 5.3 Chemicals regulation in Northern Ireland

Chemicals regulation in Northern Ireland (NI) has been significantly affected by the UK's withdrawal from the EU and by subsequent efforts to manage the implications.

As the UK is no longer bound by EU rules, regulatory divergence between the EU and the UK has increased over time. This divergence is an inevitable result of differing legislative choices, changes to guidance, and evolving interpretations of that guidance. Divergence reduces the level playing field and has trade implications, increasing the need for border checks on goods and raising the risk of a hard border on the island of Ireland.

To avoid such an outcome, bespoke arrangements were agreed when the UK left the EU. These arrangements, set out in the Northern Ireland Protocol, require NI to apply EU legislation relating to goods and to operate EU customs rules for goods entering NI, while remaining part of the UK customs territory.[533] This avoids customs checks between NI and the Republic of Ireland but necessitates customs and regulatory checks on certain goods moving from Great Britain to NI.

In 2023, the Protocol was amended by the Windsor Framework.[534] It aims to smooth trade within the UK internal market, ensure continued access in NI to goods affected by EU exit, and to provide the NI Assembly with a greater role in overseeing the application of EU law. A key innovation is the Stormont Brake, which allows NI institutions, under specific conditions, to delay and ultimately block the application of certain new EU goods legislation in NI.

NI is now in a unique regulatory position, with some legislative regimes following UK or devolved law, while others continue to follow EU law. NI's ability to shape legislative change has been further constrained by the operation of devolved government, including a 24-month hiatus during which decisions were taken by senior civil servants within policy parameters set prior to the suspension of the Executive.

Much environmental legislation relates directly or indirectly to goods and is therefore affected by the Windsor Framework. In the chemicals sector, NI follows EU Registration, Evaluation, Authorisation and Restriction of Chemicals (EU REACH). This is the EU's overall framework governing the manufacture, import, and use of chemicals, including hazardous substances.[535] In addition, because pesticide residues may be present on food traded both within the island of Ireland and between Ireland and Great Britain, NI continues to apply EU legislation in this area. Veterinary medicines are also within the scope of the Protocol and following the expiry of grace periods, NI applies EU veterinary medicines legislation. To address resulting supply risks, two bespoke arrangements were introduced under the Windsor Framework to mitigate the additional regulatory burdens associated with importing veterinary medicines from Great Britain.

Box 5.3 Chemicals regulation in Northern Ireland (cont.)

Chemicals policy extends beyond legislation alone. NI has an agricultural, economic, and political context that differs from both Great Britain and the EU. Therefore, it is important that NI develops and articulates its own chemicals policy narrative. Without this, there is a risk that NI will default to policy choices made elsewhere and fail to address chemicals issues of greatest relevance to its own circumstances.

5.7.2 Key environmental trends

The EIP Outcome Indicator Framework contains two indicators for chemicals. The first is the number of registered holders of firefighting foam stockpiles containing perfluorooctanoic acid (PFOA) that have been inspected. The second is the number of pieces of equipment containing PCBs above the legal threshold that are registered with Northern Ireland Environment Agency (NIEA). A summary assessment is provided in Table 5.7.1 with further detail below.

The APR 2026 reports 191 pieces of PCB-containing equipment registered across seven holders as of 17 December 25, and 10 holders of PFOA-containing firefighting foam identified. For both indicators, it is not possible to estimate what proportion of total stockpiles these registrations might represent. Without this context, their environmental significance is unclear.

POP emissions estimates are uncertain due to the diversity of substances and sources and a limited number of emission factor measurements on which to base emission estimates. There is a lack of good quality data for some important sources, for example, emissions associated with bonfires and residential outdoor wood burning.[21]

Between 2005 and 2023, mercury (Hg) emissions declined by around 53% from an estimated 0.2 tonnes to 0.09 tonnes.[21] This reduction has been driven mainly by decreased oil and gas use in the power sector, along with the elimination of emissions from the chlor-alkali process. The largest share of emissions in 2023 came from industrial combustion.

Pesticide use can be extrapolated from the Pesticide Usage Survey data. This survey is carried out on a sectoral basis. As agriculture is dominated by livestock, most pesticides are used on grassland and fodder.[111] The latest available data shows that between 2017 and 2021 the area of grassland and fodder crops receiving pesticide treatments increased by 6%. Between 2017 and 2021, there was also a 22% increase in the weight of pesticides applied with 120,962 kilograms of pesticide active ingredients applied to 153,560 spray hectares of grassland and fodder crops. Herbicides accounted for 98% of the total weight of pesticides applied.[111]

The five most commonly applied herbicides ranked by weight applied, were MCPA (2-methyl-4-chlorophenoxyacetic acid), triclopyr, glyphosate, fluroxypyr and mecoprop-P. MCPA was the most widely used and accounted for around 47% of all pesticides applied to grassland and fodder crops in 2021.[111] It is important to note that while there has been an increase in herbicide application, use data does not correlate strongly with potential environmental harm. This depends on the toxicity of the pesticide, how it behaves in the environment, and how and when it is applied.

No surface water bodies met the Good Chemical Status objective under the Water Environment (Water Framework Directive) Regulations (Northern Ireland) 2017 in 2024 (see Chapter 2). This reflects the inclusion of new assessments of ubiquitous Persistent, Bioaccumulative, Toxic substances (uPBTs) along with new standards and improved techniques and methods. When uPBTs and cypermethrin are excluded from the analysis, 92% of rivers and 100% of lakes achieve good chemical status.[101]

The most recent groundwater statistics are from 2021, when 71% of Northern Ireland's 75 groundwater bodies achieved good chemical status, an increase from 68% in 2015.[103]

Table 5.7.1 Chemicals – summary assessment of key short-term trends

Indicator	Indicator trend	Indicator time period
Number of registered holders of firefighting foam stockpiles containing PFOA inspected		n/a
Number of pieces of equipment containing PCBs above the legal threshold registered with NIEA		n/a

5.7.3 Progress towards ambitions, targets and outcomes

The main focus of activity during the reporting period has been on the development of a monitoring and evidence base. The APR 2026 reports on actions taken to identify holders of PFOA-containing firefighting foams and on the implementation of a system that allows holders of qualifying PCB equipment to register it with DAERA.

Persistent Organic Pollutants (POPs)

The Environmental Protection (Disposal of Polychlorinated Biphenyls and Other Dangerous Substances) (Amendment) Regulations (Northern Ireland) 2025 came into effect on 17 June 2025.[536] These regulations tighten restrictions on equipment containing legacy PCB contaminants. They require equipment containing PCBs above the new threshold limits, 0.005% by weight and a total volume of 0.05 cubic decimetres (50 millilitres), to be registered with the NIEA by 31 October 2025 and subsequently removed from use by 31 December 2025. However, it is unclear how compliance will be monitored or enforced. The APR 2026 states that the PCB and POPs targets have progressed to a new timeline, meaning that the 2025 PCB target has not been met.

PFAS

Commission Delegated Regulation (EU) 2025/718 of 14 April 2025 amending Regulation (EU) 2019/1021 of the European Parliament and of the Council as regards perfluorooctane sulfonic acid and its derivatives requires a full ban on PFOA-containing firefighting foams from 3 December 2025.[537] NIEA has provided advice and guidance to affected businesses and established a stockpile register, requiring each business holding PFOA firefighting foam to notify NIEA.[40] Businesses were required to register their stockpiles by 31 March 2026, but it remains uncertain how compliance will be monitored.

Mercury

The EIP makes no commitments regarding mercury, despite the EU Mercury Regulation, which implements the requirements of the Minamata Convention on Mercury. This is listed in the Windsor Framework and applies directly in Northern Ireland.

On 13 June 2024, the Council of the EU published a regulation amending the 2017 Mercury Regulation.[538] The amendments address the use, manufacture, import, and export of dental amalgam, and add six mercury-containing lamps to Annex II, which lists prohibited mercury-added products along with their prohibition dates.

The impact of these lamp bans is expected to be negligible. Five of the six lamps are already prohibited under the Minamata Convention, resulting in a UK-wide prohibition with no divergence between Northern Ireland and Great Britain. The sixth lamp, while not prohibited under the Minamata Convention, was already banned from import and placement on the market under domestic legislation.[539]

A significant proportion of mercury emissions arises from crematoria, with the ultimate source being dental amalgams used for tooth fillings.[540] Measures to reduce mercury emissions can target multiple points along this pathway. These include reducing emissions from crematoria, banning or restricting the use of dental amalgam, and improving oral health to reduce or eliminate the need for amalgam use.

The updated EU regulation prohibits the use of dental amalgam from 1 January 2025.[541] The UK Government is awaiting agreement on a phase-out date under the Minamata Convention. The European Commission has agreed that Northern Ireland may continue to use dental amalgam until this date is set.[542]

New UK-wide statutory guidance on crematoria, published in December 2025, makes mercury abatement flue gas treatment mandatory for both new and existing cremators within four years of publication, with only limited exceptions.[543] By 31 December 2029, the European Commission will review the implementation and effectiveness of non-statutory guidelines in Member States relating to the abatement of mercury emissions from crematoria.

Pesticides

The Farming with Nature Transition scheme is providing funding to farmers to deliver environmental benefits.[544] The scheme focuses primarily on biodiversity rather than directly on pesticide reduction. However, measures such as the creation of riparian buffer strips may offer some protection to watercourses from pesticide pollution.

Antimicrobial resistance

The APR 2026 reports that work on antimicrobial resistance in the reporting period has focused on establishing a baseline with monitoring initiated through 300 annual abattoir samples and passive surveillance. DAERA also indicates that any improvement in antimicrobial resistance levels is likely to be long-term. The APR 2026 also reports that actions to meet the targets to develop an antimicrobial resistance digital platform and to collect antimicrobial sales and use data are not progressing.

The degree of progress made on the small number of actions means that overall progress in delivering reduced exposure to chemicals in the environment through regulation, enforcement, monitoring and assessment has been limited. A summary assessment is provided in Table 5.7.2.

Table 5.7.2 Chemicals – summary assessment of progress over the annual reporting period towards meeting targets and outcomes

Targets and outcomes	Progress
Eliminate the use of Polychlorinated Biphenyls (PCBs) by 2025, in line with commitments under the Stockholm Convention.	**Limited**
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.	**Limited**
To deliver reduced exposure to chemicals in the Northern Ireland environment through regulation, enforcement, monitoring and assessment.	**Limited**

5.7.4 Prospects of meeting ambitions, targets and outcomes

A summary assessment is provided in Table 5.7.3 with further detail below.

Persistent Organic Pollutants (POPs)

While there was some progress towards eliminating the use of PCBs, the EIP target deadline has now passed. PCB stockpile information relies on self-reporting, with no publicised means of compliance. Those who do register PCB-containing equipment will be obliged to dispose of it, which could be a disincentive to registering.

We welcome the inclusion of a hazardous waste section in the draft Rethinking our Resources: Northern Ireland Resources and Waste Management Strategy, published for public consultation in January 2026.[545] The lack of hazardous waste handling capacity is a barrier to meeting the commitments under the Stockholm Convention. Northern Ireland has very limited domestic capacity to treat hazardous waste, resulting in a long-standing reliance on export for the treatment and disposal of most hazardous waste streams.[545] Consequently, the prospects of achieving the POPs target are largely off track.

PFAS

In February 2026, Defra published a PFAS Action Plan.[546] The plan is being developed with devolved administrations and states that as Northern Ireland continues to follow EU chemicals legislation, it will work with the UK plan where possible. While Northern Ireland may benefit indirectly from UK-wide actions, such as commissioning research to better understand the impacts of environmental contamination by PFAS or promoting innovation in safer PFAS alternatives within UK industry, DAERA does not appear to be an active delivery partner in these initiatives.

Pesticides

The UK National Action Plan for the Sustainable Use of Pesticides was published in October 2025.[547] While this is a welcome step forward, many of the proposed actions are vague and lack specific timelines. One noteworthy feature is the introduction of the UK Pesticide

Load Indicator which measures the impact of pesticides on the environment. The indicator combines data on pesticide use with details on their properties, including their effects on different wildlife groups and their environmental behaviour.[548] This helps track changes in environmental pressures from pesticides over time, rather than merely monitoring use.

At present, the indicator focuses on arable crops since arable farming accounts for about 85% to 90% of all pesticide use in agriculture and horticulture in the UK.[548] The Action Plan sets a goal to reduce arable pesticide load for each metric by at least 10% by 2030 from a 2018 baseline. However, this target may not drive reduced pesticide use in Northern Ireland where arable and horticultural crops account for only 4.5% of the total farmed area.[306]

In summary, as actions are currently limited in scope and focused on a small number of legacy substances, it is unlikely that they are achieving much reduction in overall chemical exposure. Therefore, the prospects of achieving this EIP outcome are largely off track. Plans for a UK-wide chemicals strategy appear to have been abandoned by Defra. However, this creates an opportunity for proactive action on specific issues that may require tailored policy responses. This could improve the prospects of reducing exposure to chemicals in the environment and their harmful effects.

Table 5.7.3 Chemicals – summary assessment of prospects of meeting targets and outcomes

Targets and outcomes	Prospects
Eliminate the use of Polychlorinated Biphenyls (PCBs) by 2025, in line with commitments under the Stockholm Convention.	**Largely off Track**
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**
To deliver reduced exposure to chemicals in the Northern Ireland environment through regulation, enforcement, monitoring and assessment.	**Largely off Track**

5.7.5 Opportunities for improvement

Meeting EIP targets for PCBs requires establishing how much PCB-containing equipment remains in Northern Ireland; ensuring that penalties for non-compliance are effective and enforceable; and securing the capacity to safely destroy PCB-containing waste. At present, inspection regimes and resourcing for NIEA are not addressed. Nor are there plans to mitigate disposal costs, for example, through financial support for small businesses, farms, or community operators operating on tight margins.

The draft Rethinking our Resources: Northern Ireland Resources and Waste Management Strategy acknowledges the lack of facilities to treat hazardous waste domestically, crucial for meeting PCB and POP targets.[545] Developing local treatment options would need careful planning to prevent negative outcomes. Disposal regulations should be coordinated with those in the Republic of Ireland, since shared supply chains mean that differing costs could encourage illegal cross-border waste activity. The Northern Ireland Audit Office in their review of waste management recommended that DAERA works to ensure that the pathway to meeting future environmental targets is facilitated by the development of appropriate infrastructure, through engagement with waste and environmental experts

and stakeholders.[9] In addition, significant gaps exist in monitoring waste flows. Introducing Defra's Digital Waste Tracking Scheme will help track hazardous waste more effectively.[549]

More broadly, action on chemicals could be both stronger and wider in scope. Northern Ireland's position is unique: chemicals legislation may be set at EU, UK, or Northern Ireland level, creating distinct governance challenges. In retained policy areas, Northern Ireland is affected by UK Government inaction, including the continued absence of a comprehensive UK chemicals strategy. In other areas, Northern Ireland benefits from the EU's regulatory direction and high environmental standards but has no formal role in shaping them (see Box 5.3).

Although the current position limits access to certain legislative levers, significant opportunities remain to reduce harm from chemicals. Current actions lack ambition, focusing largely on legacy chemicals and minimum international obligations.

Action on legacy chemicals is concentrated on disposal at the end of a linear product lifecycle. Greater gains could be achieved through prevention at source. A shift towards safe and sustainable-by-design products would support the transition to a circular economy. Improved understanding of supply chains would enable the substitution of harmful substances with safer alternatives or the removal of hazardous components prior to disposal, reducing the volume of material needing destruction or irreversible transformation.

Currently, information on chemical exposure is widely dispersed across multiple sources. It is often substance based, with lots of information gaps. Consequently, it is difficult to estimate exposure from multiple sources, or to assess whether any reduction is being achieved through regulation, enforcement, monitoring and assessment.

Preventing harmful chemical exposure at source requires knowledge of which chemicals are used, where, and in what quantities, as well as data on environmental exposure and toxicity. Chemicals not governed by bespoke regimes fall under EU REACH. While EU REACH is among the most comprehensive chemicals regulatory frameworks globally, its breadth means that most substances are not assessed in depth. Identifying future risks, such as which novel substances may become the PFAS of tomorrow requires a better understanding of domestic sources and pathways, supported by monitoring to establish baseline concentrations.

Our commissioned Water Quality Stocktake report identifies emerging contaminants of concern in UK waters.[550] The analysis was unable to determine the specific measures being taken to address the substances identified. We welcome the pilot study testing for 114 pharmaceuticals, personal care products and illicit drug residues in surface waters.[551] This could be used as the basis for the development of a screening programme for these substances within a wider environmental monitoring programme. It is unfortunate that collaboration with staff in the Environment Agency for England on the development of The Prioritisation and Early Warning System for chemicals of emerging concern appears to have stalled. This is an opportunity for Northern Ireland to benefit from shared resourcing in the prioritisation and management of chemicals in water.

Improving knowledge of what chemicals are in the environment, what harm they may do, and where they come from will enable targeted action, deploying limited resources to best effect. For example, developing a Northern Ireland specific Pesticide Load Indicator would provide better insights into pesticide pressures and help assess the impact of policy interventions.

Looking ahead, systematic application of the precautionary principle, consideration of the full chemical and product lifecycle and embedding safe and sustainable-by-design principles wherever possible, will help prevent future problems.

Recommendations for chemicals

Recommendation 1: DAERA and NIEA should improve the availability and use of evidence on chemical and pesticide risks to inform EIP targets, indicators and delivery actions.

Recommendation 2: DAERA should implement the Northern Ireland Audit Office recommendation on waste management by working to ensure that the pathway to meeting future environmental targets is facilitated by the development of appropriate infrastructure, through engagement with waste and environmental experts and stakeholders.

Table 5.7.4 Chemicals – summary assessment

Past trends	It has not been possible to assess trend data for indicators used to monitor the PCB and POP targets as the schemes are in their early stages. Mercury emissions have declined and pesticide use has increased.	**Not assessed**
Progress in the reporting period	An insufficient evidence base covering current and future chemicals risks hinders progress towards reducing exposure. Some progress has been made to identify PCB-containing equipment and PFOA-containing firefighting foam. Regarding non-legacy chemicals, the publication of the National Plan on the Sustainable use of Pesticides provides a clear policy framework to minimise pesticide use.	**Limited**
Overall prospects of meeting ambitions, targets and outcomes	Without compliance mechanisms in place, prospects of meeting PCP and POPs targets are off track. Even if stockpiles of legacy chemical-containing substances are successfully identified, destruction of these chemicals depends on adequate facilities to deal with hazardous waste. Little is known about the potential impact of non-legacy chemicals. More work is needed to identify Northern Ireland specific chemical issues and options to address them.	**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.	

5.8 Conclusions

The aim of reshaping how Northern Ireland produces and consumes goods on land and at sea is far from being achieved. Overall, current developments are not in line with policy ambitions, environment and climate related concerns are not sufficiently integrated into other policies, implementation requires improvement and is impeded by insufficient capacity and limited resources.

Substantial improvements are needed to realise the EIP ambitions of embedding sustainability across all sectors, reducing environmental pressures and supporting a resilient economy.

The EIP highlights that resource efficiency is needed across all sectors. However, it has a limited sectoral focus. While some sectors such as agriculture, fisheries and energy are included, others such as forestry, mining, industry and manufacturing are not. In addition, there is a nearly exclusive focus on production with consumption only addressed in terms of an action on provision of consumer guidance on energy decarbonisation.

Currently there is a mixed picture when it comes to reducing environmental pressures. Unsustainable agricultural practices are still leading to pollution of soil, water and air, biodiversity loss and ecosystem degradation. The overall use of fish stocks is still beyond the limit for sustainability. There is little evidence that exposure to harmful chemicals is reducing. However, there has been positive progress in putting the policy frameworks in place that can deliver improvements in the environmental sustainability of agriculture and fisheries management. In addition, the legislative and regulatory progress on producer responsibility should contribute to reducing resource use and progress towards a circular economy.

There has been over two decades of efforts to mainstream environmental considerations into other policy areas. However, the overall approach has not been successful in reducing environmental pressures from economic sectors to the extent required. Strengthening environmental integration into sectoral policy areas such as agriculture, energy and fisheries remains essential. Sectors such as agriculture must deliver multiple societal functions. This means sectoral policies encompass a range of objectives, governance is complex, policy integration is challenging, and the environment is often a lower priority than other objectives.

The Environmental Principles Policy Statement was published in March 2026 and the duty to have due regard will come into effect in September.[526] The application of this policy statement across all policy areas will assist in driving improvements on environmental protection and sustainable development. The five principles include the integration of environmental considerations into policy making, preventative action, the precautionary principle, rectifying environmental damage at source and polluter pays. They are important to the achievement of sustainable production and consumption as their systematic application can contribute to reducing environmental pressures from economic activities, embedding safe and sustainable by design into chemical and product lifecycles and ensuring that the cost of cleaning up pollution and waste is not borne by the public.

A resilient economy ultimately depends on effective stewardship of environmental resources. There are benefits from complementing a sectoral focus and environmental integration approach with a broader systems perspective. This improves understanding of interactions and enables more coherent and effective policy interventions to reduce environmental pressures along whole value chains.[14]

The food system is a major driver of environmental, climate and health impacts, including resource depletion, biodiversity loss and ecosystem degradation, pollution and unhealthy dietary choices. It is also an important factor in connecting communities, defining identities, expressing values and preserving cultural traditions.[552]

The food system links many of the actions and outcomes in this SEO and across the EIP. The Northern Ireland Food Strategy Framework takes a food system approach.[553] In combination with the EIP, actions address the whole value chain and the range of actors that operate within it. Delivery of the actions in the Food Strategy Framework Action Plan will contribute to achieving multiple EIP targets and outcomes as well as contributing to the

transition to a circular economy. Strengthening the links between the EIP and Food Strategy Framework, particularly the strategic priority to build an environmentally sustainable and resilient agri-food supply chain, is essential. DAERA's role in leading on development and chairing the cross-departmental Food Programme Board provides it with a real opportunity to deliver improved policy coherence and better outcomes.

Chapter 6: Zero waste and highly developed circular economy

Chapter 6: Zero waste and highly developed circular economy

6.1 Summary assessment

Improving resource efficiency and reducing waste are central to achieving environmental, climate and economic objectives. The transition to a circular economy is essential to achieving the goals of the EIP. It will reduce the environmental impacts related to resource use, support the achievement of net zero, strengthen supply chain resilience and create new business models and jobs.

There has been limited change in resource use and consumption patterns with no clear shift toward more circular material use. Short-term trends in waste generation and recycling rates show little to no change. The amount of municipal waste landfilled has declined, but there has been an increase in waste exported as refuse derived fuel. Waste crime, fly-tipping and illegal dumping is still widely underreported.

The Circular Economy Strategy is delayed and important gaps remain between policy ambition and actions. Strengthening the evidence base is the main focus of actions being delivered. Waste policy is now being further developed, and along with the digital waste tracking system roll out in 2026, is the main activity in this area. Policy developments are necessary, but the pace of action needs to accelerate and move from statements of intent to implementation and delivery.

The prospect of achieving the circular economy target is largely off track. Even though the material footprint reduction of eight tonnes per capita is set for 2050, current policies and actions do not demonstrate a pathway to achieving it. Without improvements in waste prevention measures, material recovery, recycling rates and diversion from landfill, waste management targets may not be achieved.

While alignment has begun to be strengthened among circular economy ambitions, climate objectives and waste management policy, opportunities remain to embed a more integrated approach across strategies, regulatory frameworks and economic instruments. There needs to be more collaboration to ensure a joined up approach across NI Executive departments. Aligning investment with circular economy principles will be essential to achieving the EIP goal of supporting innovation, reducing environmental pressures and building a more resilient and inclusive economy for future generations.

Table 6.1 Zero waste and highly developed circular economy – summary assessment

Theme	Past trends	Progress	Overall prospects
Circular economy	**Deteriorating trends dominate**	**Limited**	**Largely off track**
Waste management	**Trends show a mixed picture**	**Limited**	**Largely off track**

6.2 Context and commitments

Resource consumption, greenhouse gas emissions (GHG) and environmental impacts are inextricably linked. Globally raw material processing and extraction are responsible for over 55% of global GHG emissions and more than 90% of global water stress and land use related biodiversity loss.[554,555]

This strategic environmental outcome (SEO5) focuses on eliminating unnecessary waste and the transition to a circular economy. Circular economy and waste management are inherently connected (Figure 6.2.1). The circular economy reimagines the traditional linear system of resource use (from resource extraction and use to the creation of waste) by designing out waste, keeping materials in use for as long as possible and turning end-of-life products into valuable secondary raw materials. Waste management, guided by the waste hierarchy, seeks to maximise the value of materials that have been discarded. As a result, increasing the circularity of the economy and material use and managing waste as far up the waste hierarchy as possible can result in both a reduction in the extraction of raw materials and the amount of residual waste produced that needs disposal.

The transition to a circular economy is essential to achieving the goal set out in the EIP of supporting innovation, reducing environmental pressures and building a more resilient and inclusive economy for future generations.

In January 2023, the Department for the Economy (DfE) published its draft Circular Economy Strategy for Northern Ireland for consultation.[503] Its proposals for change focus on five main policy goals: collaborate for system change; design-out waste; manage resources to retain value; stimulate system change with funding incentives and penalties; and invest in innovation, research and skills. It sets a target, also included in the EIP, that by 2050 Northern Ireland will have reduced its annual material footprint to eight tonnes per person.[11]

The draft Circular Economy Strategy for Northern Ireland is still waiting for ministerial and Executive approval for publication. It will also support achievement of net zero through a decarbonisation plan.[445] Decarbonisation will not be achieved by just focusing on reducing territorial greenhouse gas emissions (see Chapter 7) but requires a combined systems approach with a broader understanding of the impacts of production and consumption.

The Northern Ireland Green Growth Agenda which is aligned with Ireland's Bioeconomy Action Plan has identified the development of the circular bioeconomy as one path towards a sustainable economy.[556,557] The creation of a sustainable agriculture industry is one of the priorities along with decarbonisation and net zero targets.[558]

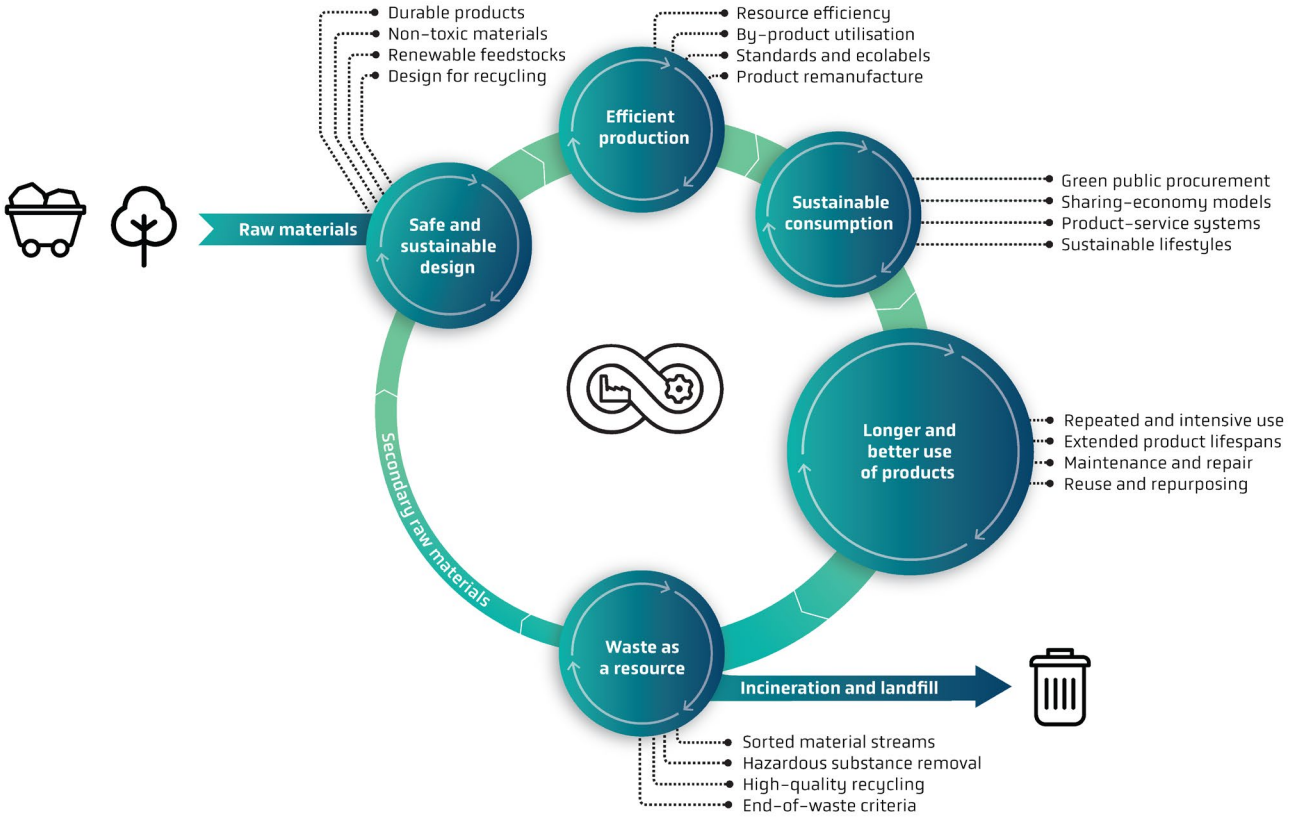


Figure 6.2.1 The relationship between resource extraction, circular economy and waste with key policy actions[559]

Waste policy has tended to focus primarily on waste management. The recently published draft Rethinking our Resources: Northern Ireland Resources and Waste Management Strategy recognises that waste policy must take a broader look at material and resource consumption, product design, waste prevention and extending the life of goods and products.[545]

The EIP contains targets set under the Waste and Contaminated Land (Northern Ireland) Order 1997 of achieving 65% municipal waste recycling rates by 2035, with interim targets of 55% by 2025 and 60% by 2030, and a municipal waste landfill cap of 10% or less by 2035.

These targets have been complemented by an additional target for an overall waste recycling rate of 70% by 2030 set by the Climate Change Act (Northern Ireland) 2022.[27] In addition, the EIP contains a commitment to contribute to meeting the Sustainable Development Goal (SDG) 12.3 to halve per capita food waste by 2030. This recognises the need to reduce food waste and have more sustainable food systems.

European Union (EU) waste policy has continued to apply in Northern Ireland to a significant extent under the Windsor Framework (part of the EU-UK Withdrawal Agreement).[560,494] This has established a unique legislative arrangement whereby Northern Ireland is subject to a combination of EU obligations, including the EU's Packaging and Packaging Waste Directive (soon to be replaced by the EU Packaging and Packaging Waste Regulation 2025/40 and applicable from August 2026) and underpinning the UK Extended Producer Responsibility Scheme (EPR) (see Chapter 5). This unique arrangement operates alongside the requirements of the UK-EU Trade and Cooperation Agreement[561] as well as domestic and international obligations.[562]

6.3 Circular economy

6.3.1 Key environmental trends

A summary assessment is provided in Table 6.3.1. with further detail below.

The Circular Material Use Rate (CMUR) measures the share of materials recovered and fed back into the economy replacing primary raw materials and reducing their extraction.[563] A higher CMUR indicates that a greater proportion of materials are being recycled or recovered rather than lost to landfill, incineration or dissipative use.

In 2022, material consumption was 8.9 million tonnes, of which, 1.4 million tonnes were recovered domestically, with a total CMUR of 10% (Figure 6.3.1). This is just below the EU-27 average of 11.54%.[564] The least circular materials are biomass and fossil energy (CMUR = -1%). The negative CMUR is because imports of waste destined for recovery are larger than the total amount of material recovered domestically and exported as waste destined for recovery.[564]

In 2022, 4.3 million tonnes of biomass were consumed, making biomass the largest contributor to Domestic Material Consumption,[564] with 2.8 million tonnes was extracted domestically and 5.4 million tonnes imported. Animal feed is one of the top five products. Food production, mainly meat and dairy, is higher than the population's needs, and 80% of this food is exported. Food production has a significant impact on the environment, from land use to greenhouse gas emissions from both animal feed and livestock.[565,564] Most recovered biomass waste originates from households rather than from the agricultural or food processing sectors where consumption is most intensive.[564]

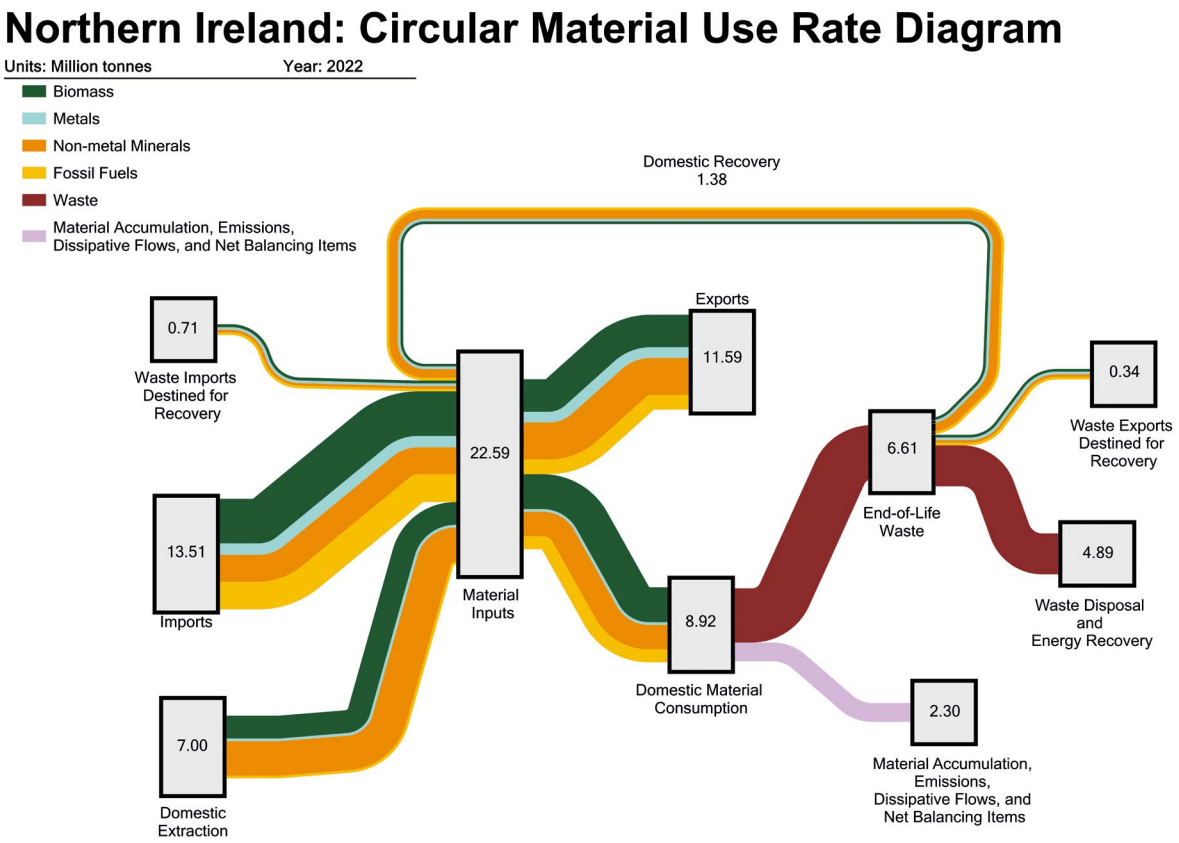


Figure 6.3.1 Circular Material Use Rate for Northern Ireland in 2022. The thickness of lines represents the size of material and waste flows

The circular economy is also monitored using material and carbon footprints. The material footprint (MF) estimates the total volume of raw materials extracted globally to meet a nation's final demand for goods and services.[566] The carbon footprint (CF) complements this by estimating the embodied GHG emissions associated with consumption. Together they provide insights into the climate and environmental impacts embedded in global supply chains as well as identifying opportunities for intervention to reduce impacts.

In 2022, the total MF was approximately 39 million tonnes, representing 20.6 tonnes per capita. The MF per capita reached its highest level in 2004 of approximately 24 tonnes, reducing to 16 tonnes by 2020 followed by an increase of approximately five tonnes per capita between 2020 and 2022. From 2017 to 2022 the short-term trend showed a statistically significant increase of 23.4%.[567] The recent increase can be partially attributed to a post Covid-19 pandemic rise in consumption and increased economic activity.[568]

In 2022, the CF was 11.9 tonnes CO_2e per capita. Since 2006 the CF per capita has been decreasing from its highest estimate of 16.1 tonnes reaching its lowest point in 2020. However, the short-term trend from 2017 to 2022 shows an increase of 1.7% which we assess to not be statistically significant.[567]

Between 2001 and 2022 the CF decreased by 18.5% per capita. This contrasts with the reduction in emissions released within Northern Ireland (territorial or production-based emissions) which fell by 34.8% per capita over the same period (see Chapter 7).[568] The difference between these two figures arises because CF accounts for emissions embedded in imports highlighting the need to address consumption patterns as well as territorial emissions.

Further analysis of the MF and CF highlights that three key sectors – construction, agriculture and the bioeconomy, and manufacturing – accounted for approximately 66% of the MF and 36% of the CF. This has enabled the identification of priority sectors for intervention in the draft Circular Economy Strategy based on their contribution to environmental footprints.[568]

Table 6.3.1 Circular economy – summary assessment of key short-term trends

Indicator	Indicator trend	Indicator time period
Material Footprint		2017-2022
Carbon Footprint		2017-2022

6.3.2 Progress towards ambitions, targets and outcomes

A summary assessment is provided in Table 6.3.2 with further details below. A concise overview of developments on reducing single-use plastic (SEO4) is also included (see Box 6.1).

The APR 2026 reports that progress has been made with actions towards the long-term target to reduce the MF to eight tonnes per person by 2050, raising awareness of circular

economy principles while embedding circular thinking across government and society, and developing the draft Circular Economy Strategy.[569]

Actions include strengthening the analytical and statistical foundation for circular economy and decarbonisation policy led by DfE.[570] In August 2025, DfE published its research bulletin on indicators to monitor decarbonisation and the circular economy.[568] This explores the role of the circular economy in supporting the transition to net zero. By creating a fundamental shift in how products are made and consumed, with less reliance on raw materials, it can make a large contribution to reducing GHG emissions.

It is also acknowledged that the long-term nature of the MF target and that the MF may increase in the short to medium term due to energy transition infrastructure needs. Therefore, DfE is considering developing additional indicators and targets for interim monitoring. In addition, the MF is an aggregated indicator and does not fully capture sector-specific environmental impacts. This presents a risk that high impact but low material intensity sectors appear less problematic than they actually are environmentally.[571]

Progress has also been identified with the engagement of the Consumer Council NI which produced the Consumer Attitudes to CE survey and the inclusion of CE questions in the Continuous Household Survey.[572,573] These actions are pivotal to embedding the circular economy across government data collection, supporting policy coherence as well as improving understanding of public attitudes.[572]

The draft Circular Economy Strategy for Northern Ireland is still waiting for ministerial and Executive approval for publication. Following this, DfE will bring forward an implementation plan for delivery. In the absence of the strategy, the APR 2026 reports that DfE is also progressing actions towards delivery in areas such as public procurement, potential industrial clusters, skills development and potential funding sources. The report highlights resource constraints as a major cause of delay yet this has not been addressed through additional funding commitments.

Other actions have focused on the sustainability and circularity of the agriculture sector through the development of anaerobic digestion, biomethane production, and the management of excess nutrients. DAERA has launched the Sustainable Utilisation of Livestock Slurry scheme.[108] The aim is to advance the production of biomethane and the reuse of nutrients through the separation from slurry and digestate.[574] The intention is to develop the circular bioeconomy while reducing nutrients in Lough Neagh and other catchment areas as well as improving water quality (see Chapter 2 and Chapter 5).[110]

However, it is critical to understand if these actions are residue-based, with anaerobic digestion using existing slurry residues to increase circularity, or if they expand demand by incentivising herd expansion or energy crops leading to an increase in material throughput.

In April 2025, the Executive also published a report of the responses to the call for evidence to devise an effective policy framework for a biomethane sector.[575] Last year it reaffirmed its commitment to developing a sustainable biomethane strategy.[568,576] In their responses, industry stakeholders highlighted the need for specific biomethane targets; effective management of feedstock and nutrients; and options for an affordable mechanism to support the sector's development. They also asked for consideration of the economic regulation of the production of biomethane and regulations for the certification of biomethane as a renewable gas.

However, such measures could have implications including increased long distance feedstock transport leading to degradation of material quality, fugitive emissions (CO_2 and methane), and potential breach of duty of care requirements.[577] In addition, as recognised in England, significant fugitive methane emissions can arise from anaerobic digestion production process.[578,579]

Circular economy governance appears more developed in the area of biomass, nutrient management and agricultural resource efficiency than in construction materials and reducing the material footprint of consumption, where policy levers and operational pathways are still not clearly defined.[568]

Box 6.1 Reducing single-use plastic

Single-use plastic (SUP) products are items used once and then discarded, often as litter. Since plastic takes centuries to break down, its impacts on the environment and health present a challenge.[580,581] UK households throw away an estimated 1.7 billion pieces of plastic each week and only 17% is recycled.[582] The UK reached Plastic Overshoot Day (where plastic waste outweighs a country's ability to manage it) on 9 December 2025 ranking the UK as a big plastic exporter.[583]

The necessary strategic drivers in the form of the draft Rethinking our Resources: Northern Ireland Resources and Waste Management Strategy and the draft Circular Economy Strategy have been developed but are not yet in force. During the reporting period the public consultation on the new Plastic Pollution Plan for Northern Ireland (PPP NI) represented a significant achievement, followed by the publication of the Summary of Consultation Responses.[584]

The Executive has approved the restriction of wet wipes containing plastic (regulations will come into operation in May 2027), and the Producer Responsibility Obligations (Packaging and Packaging Waste) Regulations 2024. However, legislation to ban other common SUP items (like cutlery, plates, and straws) and introduce measures on bottle caps and recycled content has been delayed due to legislative complexities.[585] Therefore on the legislative front, progress appears mixed.

Despite the legislative delays, it is clear there is a firm policy commitment to reduce plastic pollution, underpinned by the potential of a delivery plan. Furthermore, enabling schemes like the Extended Producer Responsibility (pEPR) for packaging commenced in April 2025, and the Deposit Return Scheme (DRS) for drinks containers is on track for a launch in October 2027. These schemes are designed to work in tandem with the SUP bans to reduce plastic waste at source and prevent it from becoming litter.

The current phase implies that the most significant environmental gains are still ahead and will be realised in the medium to long-term. The future challenge will be to ensure that these separate initiatives, the PPP NI, the Single Use Plastics Directive transposition, pEPR, and DRS, are delivered and implemented in a coherent and comprehensive way.

The success of the SUP agenda in Northern Ireland will be measured by the Executive's ability not only to ban problematic items, but to redesign systems of production, consumption and waste management to underpin the transition to a circular economy.

Overall progress in the annual reporting period towards reducing the annual material footprint has been limited. Actions have primarily focused on evidence development, measurement, strategy design and awareness building with continued delays and gaps in delivery.

Table 6.3.2 Circular economy – summary assessment of progress over the annual reporting period towards meeting targets and outcomes

Targets and outcomes	Progress
By 2050 we will have reduced our annual material footprint to 8 tonnes per person.	**Limited**

6.3.3 Prospects of meeting ambitions, targets and outcomes

The prospects of achieving the target to reduce the annual MF to eight tonnes per person by 2050 is largely off track. A summary assessment of the target we assessed prospects of meeting is provided in Table 6.3.3 with further detail below.

To reach the target, material use must reduce by more than half from current levels. This implies sustained annual reductions of roughly 0.45 tonnes per capita over nearly three decades.[567] In the last two decades material use has shown little or no change and remains tightly coupled to economic activity.[555] Without additional demand-side or supply-side interventions targeting material intensity and consumption, current patterns are unlikely to change significantly.[503,586,587]

Research, surveys and evidence publications do not introduce new policy levers, funding mechanisms or regulatory changes, or address drivers of material use or emissions. There is no delivery plan for measures to reduce the MF and it is hard to quantify how much improving resource efficiency will contribute to reducing emissions.

The pathway from increasing awareness to changing outcomes is not clear. Adding circular economy questions to surveys does not directly change behaviour or markets, and follow-up commitments linked to these survey results have not been identified. How behavioural changes will be achieved is still not specified. These actions will improve understanding of the issues and challenges but unless they are linked to policies, they will not drive the desired transformative change.

Since biomass is the largest material flow, achieving the target without transforming agricultural throughput appears unlikely.[564] This requires ensuring coherence between actions and the integration of biomethane into draft circular economy and waste strategies. The credibility of actions depends on ensuring that biomethane production remains residue-based and does not drive increased livestock intensity.[588] The plan is to improve nutrient efficiency, but its contribution to achieving the material footprint target is indirect and unclear.

While significant investment has been committed, the extent to which outcomes will scale to sector-wide transformation is still uncertain.[589–591] For instance, the development of biomethane grid injection will need the support of infrastructure and detailed regulatory frameworks.

Given the long-term horizon, the 2050 target could be technically achievable. However, with current policies and measures the prospects of achieving this ambition depend heavily on whether the forthcoming Circular Economy Strategy and associated delivery plan will set out clear and specific measures supported by cross-departmental and cross-sectoral collaborations.

Table 6.6.3 Circular economy – summary assessment of prospects of meeting targets and outcomes

Targets and outcomes	Prospects
By 2050 we will have reduced our annual material footprint to 8 tonnes per person.	**Largely off track**

6.3.4 Opportunities for improvement

Developing policies that will keep products, parts, and materials in use entails implementing circular business models, systems, and incentives that maximise their value within the economy.[587] However, it is vital to ensure that efficiency gains do not simply lead to more consumption. Without measures that actively limit the use of resources, the benefits of circularity may be absorbed by rising demand, leaving overall environmental pressures unchanged.[592]

Increasing clean material cycles through improved product design, and the substitution of hazardous substances could enable greater reuse of materials and increase public confidence in the quality of recirculated materials.[593] The recovery of high quality materials – particularly carbon based feedstocks like plastics and biomass, and their reintegration into production cycles – helps close loops for materials that are currently lost to incineration or landfill. It also provides economic opportunities.

The Executive has a key role to play in initiating, guiding, coordinating and sustaining actions. Through policy development, 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 while engaging with the public to build support for change.

It is key that NI Executive Departments and industry take the next steps to advance the supporting and scaling up of promising initiatives. The model emerging from Sustainable Utilisation of Livestock Slurry scheme places the government as the strategic architect and funder of innovation with industry as a delivery partner and co-investor.[108] Place based initiatives such as Future Island-Island on Rathlin – a collaborative, multi stakeholder project that aims to accelerate the green transition locally – demonstrate how local scale initiatives can inform and support innovation.[594]

In addition, while EU-UK divergence can create complexity, it also means Northern Ireland can adopt emerging best practices from other jurisdictions. DfE's research programme explicitly examines successful interventions from around the world enabling evidence informed policy selection rather than being locked into a single approach.[595] Many countries have used public procurement as a mechanism to increase sustainable consumption.

There are many examples and learning to draw on to enable the full potential of public procurement in supporting the development of a circular economy to be realised.

The focus on evidence development is also an opportunity to create an evidence base for action. This will require ensuring that knowledge informs policies aimed at driving transformational change, result in reductions in material throughput and embedded emissions, while engaging people in the process.

Cross-departmental collaboration will be key to ensuring cross-government delivery. A formal cross-departmental delivery board would effectively connect economy, agriculture, waste, climate and infrastructure and oversee the development and implementation of proposals and measures to be incorporated into sectoral plans, policies and regulations.[596,597]

Recommendations for circular economy

Recommendation 1: The Department for the Economy should finalise and subject to Executive approval, publish the Circular Economy Strategy. This should be supported with a clear, time-bound delivery plan. This should set out specific milestones, including interim material footprint reduction targets for 2030 and 2040 and have clear allocation of departmental responsibilities.

Recommendation 2: The Department for the Economy should establish a formal cross-government delivery board bringing together central and local government. This board should coordinate efforts, align priorities, and ensure that commitments are implemented and planned actions delivered.

Recommendation 3: The Executive, through the Department of Finance and the Procurement Board, should harness the potential of public procurement to drive the change needed for a circular economy, and should require the prioritisation of reused, recycled, repairable and resource efficient products.

Table 6.3.4 Circular economy – summary assessment

Past trends	There is limited evidence of a shift towards resource efficiency and material circularity. Material and carbon footprints are not decreasing.	**Deteriorating trends dominate**
Progress in the reporting period	Reported actions focus mainly on evidence development, measurement frameworks, strategy design and awareness raising rather than implementation and delivery. The draft Circular Economy Strategy for Northern Ireland remains unpublished and important gaps remain between policy ambition and operational actions.	**Limited**
Overall prospects of meeting ambitions, targets and outcomes	While the long-term target remains technically achievable, current trends and policies and measures suggest that progress will depend heavily on the forthcoming strategy and delivery plans to establish clear measures, cross-departmental coordination and defined responsibilities. Prospects of achieving the target remain largely off track under current conditions.	**Largely off track**
Robustness	Important limitations remain in the monitoring framework. Our assessment of prospects relies on a combination of trend analysis, policy documents, commissioned research on circular economy and material flow and expert judgment on the transformative potential of forthcoming strategies.	

6.4 Waste management

6.4.1 Key environmental trends

A summary assessment is provided in Table 6.4.1 with further detail below.

The waste hierarchy ranks material and waste management options according to what is best for the environment. It gives top priority to preventing waste, then preparing waste for reuse, then recycling, then recovery (for example incineration with energy recovery) and finally disposal (for example landfill).

Waste prevention is reliant on voluntary compliance, with no mandatory intervention mechanisms in place. Voluntary initiatives such as Repair Cafes provide an important opportunity to educate the public on circular thinking and waste prevention. During the reporting period Repair Cafe NI held 56 events, resulting in an estimated 3.76 tonnes of prevented waste across 1,532 repaired items.[598]

Between 2019/20 and 2024/5 the short-term trend in household waste generation showed little to no change. Household waste is any waste that comes from a household. It is generally managed by local councils and can include household rubbish, unwanted or unusable items including furniture or electrical items, garden waste, oils and paints, scrap metal such as old car parts and DIY waste such as rubble, timber or bricks.[599]

Recycling rates reached their highest level of 51.9% in 2019/20. However, between 2019/20 and 2024/25, the short-term trend in recycling rates showed little to no change. This stagnation is the result of several factors, including the lack of an adopted, up-to-date strategic plan and overall government direction.[600] It may also reflect the limits of voluntary household participation without new policy levers such as extended producer responsibility (EPR), deposit return schemes (DRS) (see Chapter 5), or separate food waste collections.[601–603]

Contamination in recycling streams remains high, with 86% of households placing at least one non-accepted item in their recycling bin. Missed capture is also significant, with 73% of Northern Ireland households omitting recyclable materials from collection.[604]

Public confidence in local council recycling may pose an additional barrier. Only 56% of respondents to Waste and Resources Action Programme's (WRAP) 2024 Spring Recycling tracker survey believed their local council recycles all the materials it collects. This suggests that poor faith in current systems may be inhibiting recycling uptake.[605] While previous increases in recycling rates are associated with the introduction of measures such as kerbside recycling and compost collections,[606,607] there have been no transformative actions of a similar impact in recent years.

Since 2006/7 the volume of municipal waste landfilled has declined except for a brief increase during the Covid-19 period (2020 to 2022). Between 2019/20 and 2024/25, the volume of waste landfilled decreased by 41.7% (98,763 tonnes) a statistically significant decline. In 2024/25, landfill accounted for 14% of the end fate of local council collected municipal waste. Meanwhile energy recovery accounted for 34.3%.[608] Landfill tax and statutory diversion targets have been key drivers of this trend.[527]

However, overall waste arisings have not decreased, while the drivers behind landfill reduction have shifted. Historically, decreased landfilling has been linked to increased

recycling uptake. However, since recycling rates plateaued in 2019/20, the primary mechanism for landfill diversion has been an increase in waste exported for incineration as Refuse Derived Fuel.[608,609]

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

The most recent data on illegal disposal are from 2015, which estimated that at least 300,000 tonnes of waste are deposited illegally each year.[610] The current annual cost of waste crime has been estimated at approximately £34 million, excluding the long-term economic burden of remediation costs due to historic illegal disposal, with legal risks and potential penalties outweighed by financial gains from committing a crime.[610–612] Sanctions do not provide an effective deterrent, and without a contaminated land regime in force, remediation costs remain a knowledge gap.[611] Furthermore, fly-tipping data is collected voluntarily and inconsistently, meaning that the true scale of waste crime is likely underreported.[609]

Table 6.4.1 Waste management – summary assessment of key short-term trends

Indicator	Indicator trend	Indicator time period
Waste generated from households		2019/20 – 2024/25
Recycling levels		2019/20 – 2024/25
Municipal waste landfilled		2019/20 – 2024/25

6.4.2 Progress towards ambitions, targets and outcomes

A summary assessment is provided in Table 6.4.2 with further detail below. A concise overview of developments on local environmental quality that focuses on litter (SEO1) is also included (see Box 6.2).

The APR 2026 reports that following completion of the Rethinking our Resources: Measures for Climate Action and a Circular Economy in NI Consultation public consultation, DAERA has developed a departmental response not published yet at the time of writing.[11,613]

The current Waste Management Plan has also been reviewed, which has informed the draft Rethinking our Resources: Northern Ireland Resources and Waste Management Strategy. We understand from DAERA that this draft strategy was held up by a shift in priorities for the Waste Strategy team and by resource constraints. It was published for public consultation in January 2026.[614]

The strategy integrates statutory requirements under the Waste and Contaminated Land Order 1997 and reflects alignment with circular economy and climate objectives. The strategy's intent is to represent improved coherence across waste hierarchy principles, self-sufficiency, proximity, and environmental protection considerations.[545]

The APR 2026 also reports that the Household Waste Recycling Collaborative Change Programme, continues to provide a funding mechanism for Councils to transform kerbside recycling and household recycling centre infrastructure and services. It is aimed at improving environmental outcomes and helping to realise the economic potential of recycling. In the last year DAERA provided payments of £811,000 bringing the total funding committed through the programme to £8.26 million.

The Household Waste Recycling Collaborative Change Programme, also addresses the infrastructure gap identified in the report and the longstanding barrier of the poor material quality of recyclates to circular economy implementation.[615,616] While this operational and council focused investment is noted, evidence of its direct outcomes and impact on the ground is not yet readily available.

Additionally challenges and delays to five actions are reported. These include completing a review of, and update, current fees and refunds policy for Transfrontier Shipment of Notifiable Waste and developing a process for improved data recording.

DAERA is actively developing a consultation on the Ban on Biodegradable Waste to Landfill, supported by a Strategic Environmental Assessment, and aligned with Climate Change Committee recommendations.[54,617,618] The Strategic Environmental Assessment scoping implies consideration of full environmental coverage, but the scope, exemptions and strength are not yet defined, and no decision has been taken.

However, while the action demonstrates policy integration across waste and climate objectives and is in line with the Programme for Government 2024-2027 commitments to environmental sustainability and cross-sector collaboration, delays mean it is progressing to a new timeline.

Delays to a consistent approach to data collection on fly-tipping and illegal waste disposal and scoping of a fly-tipping app to improve data recording are also reported. However, ongoing engagement between the Northern Ireland Environment Agency and local councils on waste crime is highlighted. This includes operation of the Fly-tipping Protocol, support for local councils in handling large-scale illegal dumping, and training provided to council staff and engagement with environmental quality forums.

Development of a UK-wide digital waste tracking system has also progressed with implementation planned across 2026 and 2027 following a series of delays since 2018.[619] This represents a comprehensive action that can standardise monitoring and help tackle waste crime. It promises to address the fact that approximately 87% of waste lacks robust data monitoring, but the project remains subject to roll out risk.[9] The APR 2026 acknowledges that more work is required as the scheme develops to ensure delivery against the primary objectives.

Progress on food waste appears limited and fragmented. The Food Strategy Action Plan 2025-2027 was published in May 2025. Alongside the NI Food Strategy Framework, it provides a high level strategic context but lacks detailed, enforceable actions and regulatory measures.[553]

The plan remains reliant on voluntary actions and pilot projects, with not enough attention paid to binding waste reduction targets across the supply chain, including pre-farm gate. While the plan references some actions aimed at food businesses and surplus food redistribution, these remain exploratory and lack regulatory force. This leaves household

behaviour change campaigns as the primary driver for reducing food waste (e.g. Love Food Hate Waste, Recycle your food waste).

DAERA has also commissioned WRAP to complete a new waste composition analysis (the latest was published in 2017) with publication expected in 2026 along with a survey on commercial and industrial waste arisings to monitor national performance in recycling. The aim is to provide robust data to measure against the targets in the Climate Change Act (Northern Ireland) 2022,[27] and identify recycling and waste treatment infrastructure requirements.[620]

These are important steps to address critical gaps that have hindered evidence-informed policymaking. However, they remain pre-implementation actions and their contribution to achieving statutory targets will ultimately depend on how quickly and effectively the findings are translated into binding policies, infrastructure investment, and operational changes on the ground.

During the reporting period DAERA have continued to fund waste prevention initiatives as part of its Waste Prevention Programme through the Carrier Bag Levy.[621–623] A Better Way campaign, launched in February 2025, aims to show the public the many ways waste can be reduced, reused and repaired.[624] A new zero waste environmental education pilot programme was launched in the same period as an opportunity for schools to become Zero Waste Champions.[625]

Box 6.2 Local Environment Quality

Monitoring, reducing and eliminating littering is essential for safeguarding the quality of the local environment. It is critical for preventing pollution at source and for protecting terrestrial and marine ecosystems (see Chapter 2 and Chapter 5).

The potential to reduce environmental damage done by littering and fly-tipping is huge, particularly when combined with recognised value of materials and their retention within a circular economy. Addressing litter is also fundamental to creating cleaner, healthier, and more attractive places for people to live, work and enjoy.[626]

In 2024 the NI Local Environmental Audit & Management System (LEAMS) score stood at 73%. This was a fall of 2% from the previous year (75%), and a small increase since 2020.[627] While littering is not getting statistically worse (the higher the score the cleaner the streets are), there has been no meaningful progress in improving the cleanliness of streets and public spaces since 2022 (72%).

This stagnation is concerning, as illegal dumping of litter and waste remains one of the top environmental concerns for people.[93]

In the 2024 litter stream, packaging items formed the highest percentage (confectionery 58%; drinks bottles and cans 44%).[627] This persistent prevalence of packaging waste underscores the urgent need to accelerate the introduction of Deposit Return Scheme (DRS) and Extended Producer Responsibility (EPR), designed to tackle these items at source.[628,629]

The APR 2026 reports that Keep Northern Ireland Beautiful (now known as Live Here Love Here) Adopt a Spot programme has already established over 1,175 sites and 500 groups by 2025. This demonstrates a strong civic appetite for change and that the community engagement is high.[630]

Box 6.2 Local Environment Quality (cont.)

The direction is currently being maintained by this grassroots effort and the continued grant support through the DAERA Environment Fund, but these actions are currently mitigating, rather than reversing, the problem, and current interventions are not enough to deliver measurable and effective improvements.

The development of Northern Ireland's first Litter Strategy is critical. The APR 2026 explicitly states that work on this strategy has been paused until the 2027 to 2030 period due to resource constraints.

This implies a significant risk. Without an overarching strategy to link land-based and marine litter (see Chapter 2), and to coordinate policies such as DRS and EPR (see Chapter 5), progress will likely remain slow and fragmentary.

The future direction will be determined by whether this strategy is resourced and delivered as planned. Until then, progress will rely on the current business as usual approach, which is not delivering the improvement needed.

Overall, actions during the reporting period reflect policy development with less emphasis on delivery. However, progress is limited and characterised by repeated delays, a reliance on voluntary measures, pilot projects and a significant gap between policy intent and implementation.

Table 6.4.2 Waste management – summary assessment of progress over the annual reporting period towards meeting targets and outcomes

Targets and outcomes	Progress
Achieve 65% of municipal waste recycled by 2035, with interim targets of 55% by 2025 and 60% by 2030 to protect our environment.	**Limited**
Achieve a 70% recycling rate by 2030.	**Limited**
By 2035, send no more than 10% of municipal waste to landfill to move up the waste hierarchy.	**Limited**
Contribute to SDG 12.3 (halving per capita food waste in the UK).	**Limited**

6.4.3 Prospects of meeting ambitions, targets and outcomes

A summary assessment is provided in Table 6.4.3 with further detail below.

The above targets represent a significant step forward and are more ambitious than the current level of action, requiring bigger and faster improvements. While prevention sits at the top of the waste hierarchy, current policy emphasis is weighted toward management rather than reduction. Without clearer regulatory or fiscal mechanisms targeting waste generation at source, the likelihood of significant prevention-led progress remains limited. Without prevention measures, recycling and landfill targets, along with net zero targets become increasingly difficult to achieve.[631,632]

While the draft Rethinking our Resources: Northern Ireland Resources and Waste Management Strategy is welcome, without accelerated implementation of EPR (see Chapter 5), mandatory food waste capture expansion (a key delivery action that has proven to be successful in Scotland), clear and well planned infrastructure investment and

contamination reduction strategies, the prospects of reaching 60% recycling by 2030 and 65% by 2035 appear largely off track.[633–637]

Achieving these would require scaling up and speeding up actions. In addition, there is no clearly articulated capital investment programme directly linked to the achievement of 70% recycling or landfill reduction targets.

However, the absence of a conventional large scale infrastructure programme should not be regarded as a problem, provided there is a strategic, evidence based approach in place. This should prioritise technologies with robust environmental performance; avoid lock-ins that could undermine waste reduction targets; and be informed by forward-looking analysis such as the Strategic Investment Board 2050 Waste Arisings Infrastructure Report.[527] The recent £4 million investment in anaerobic digestion demonstrator infrastructure suggests DAERA is exploring such an approach, although it is still unclear whether this represents a strategic shift or is a single initiative.[638]

Given current trends in landfill diversion, reaching below 10% landfill by 2035 appears on track, especially if Refuse Derived Fuel diversion continues.[11] However, the risk is that the target is achieved through exports for energy recovery rather than by moving management of waste up the waste hierarchy. While energy from waste plays a role in reducing landfill reliance; without parallel strengthening of prevention and recycling measures, increased reliance on energy recovery may weaken incentives to reduce waste generation and improve material capture, undermining circular economy principles.[639,640,527]

Data from England shows that reliance on landfill has declined steadily since the waste hierarchy was brought into law, but the recycling rate has stagnated while reliance on incineration has increased substantially.[527] This causes a lock-in effect that limits recycling and undermines waste reduction.[641]

The inclusion of energy from waste in the UK Emissions Trading Scheme from 2028 will add a carbon price to fossil-based emissions potentially increasing gate fees (see Chapter 7).[642] While intended to favour recycling over incineration, this added cost could divert waste to cheaper landfill unless landfill tax is adjusted accordingly.[643] For Northern Ireland, where a major incineration project remains under consideration, the Emissions Trading Scheme adds uncertainty for long-term infrastructure planning, as well as the overall goal of reducing carbon impacts of waste management, especially if integration with EPR is missed.[644,645] Operators and producers are responding to different incentives, which may not align, and if EPR does not reinforce reduction and recycling, and instead waste generation continues, emissions may not actually fall.

The proposed ban on biodegradable waste to landfill could significantly accelerate landfill reduction.[646,618] The proposed intervention if implemented would represent a system-wide measure, directly affecting landfill volumes, residual waste management and methane emissions.

The current approach to reducing food waste relies on voluntary behaviour change. In 2017 food waste accounted for approximately 25% of household waste with the most recent data showing that almost 30% of the average rubbish bin is still made up of food.[647,648] This makes it clear that relying on voluntary measures is not enough to meet the UK's shared goal of a 50% reduction by 2030 (Sustainable Development Goal 12.3).[649]

The costs of dealing with illegal waste disposal diverts public funds away from prevention, infrastructure and enforcement.[9] This limits the likelihood of achieving key targets particularly in a resource constrained environment where delivery capacity becomes limited or nonexistent.[611,609]

Joint operations, including ongoing cooperation between the Northern Ireland Environment Agency and local councils, show that agencies are actively working together to enhance their capacity. However, the absence of a clear, coordinated work plan is hindering their ability to deal with environmental crime. Combined with data gaps, inconsistent monitoring of fly-tipping, and weak deterrence, this undermines regulatory credibility.[611]

Persistent waste crime represents a structural vulnerability within the waste management system.[609] This is exacerbated by critical gaps in monitoring even the regulated waste sector.[611] Unless monitoring, deterrence and enforcement capacity are strengthened alongside policy reforms, waste crime risks undermining progress toward recycling, landfill, and food waste commitments.[611]

Table 6.4.3 Waste management – summary assessment of prospects of meeting targets and outcomes

Targets and outcomes	Prospects
Achieve 65% of municipal waste recycled by 2035, with interim targets of 55% by 2025 and 60% by 2030 to protect our environment.	**Largely off Track**
Achieve a 70% recycling rate by 2030.	**Largely off Track**
By 2035, send no more than 10% of municipal waste to landfill to move up the waste hierarchy.	**Partially on Track**
Contribute to SDG 12.3 (halving per capita food waste in the UK).	**Largely off track**

6.4.4 Opportunities for improvement

The main opportunities for improvement lie in faster implementation, stronger regulatory instruments, improved system governance, and shifting the focus of efforts upstream to waste prevention and increased circularity.

Action needs to speed up and move from a focus on policy development to delivery. Publication of the draft Rethinking our Resources: Northern Ireland Resources and Waste Management Strategy should immediately be followed by the implementation of measures and actions with clear funding and delivery pathways.

Waste prevention is not integrated and embedded at all levels despite compelling examples of grassroots action delivering tangible results.[650,651] It addresses critical social and environmental issues such as levels of unemployment, deprivation, and fly-tipping, in line with the aim of a just transition towards a circular economy.[652,653] With approximately 60% of people throwing away items that could be repaired, voluntary repair initiatives like Repair Cafes have been able to prevent an estimated 7.5 tonnes of waste.[654] The scaling up of promising initiatives should be given more support.

Greater and more consistent use of end-of-waste decisions could accelerate circularity. This mechanism allows materials to exit the waste regime and re-enter productive use, but

regulatory hesitation currently limits its application.[655] With clearer guidance and evidence based frameworks, more materials could re-enter the economy, supporting progress up the waste hierarchy.

From a greenhouse gas perspective, the waste hierarchy delivers increasing climate benefits as materials move up from disposal to prevention. While landfilling or incinerating waste have a relatively modest carbon footprint, the primary climate gain comes from avoided production.[656] Moreover, improving capture rates enables materials to stay in circulation longer, maximising the cumulative climate benefits of each additional recycling loop.[657] Waste management shows the highest relative potential for emissions reduction when combined with the potential of circular economy strategies to mitigate climate change.[657,658] The forthcoming Waste Composition Analysis and the Commercial and Industrial Waste Survey will also enable the identification of where high carbon intensive materials are being lost. This can support the development of specific targets for high impact materials.

Speeding up the implementation of EPR with strong eco-modulation based on life cycle thinking is a fundamental step.[659,660] By making fees significantly higher for hard to recycle packaging, producers are incentivised to design products that are easier to recycle, directly improving the quality and quantity of material in the system. The deposit return scheme due in 2027, is a direct tool to achieve very high capture rates for aluminium cans and PET plastic, ensuring these materials can be repeatedly recycled back into new products (see Chapter 5).

To prevent the Emissions Trading Scheme from incentivising landfill, the Executive with the UK Government and the EU has the opportunity to coordinate policy signals from the landfill tax system, and monitor EU carbon pricing development to avoid market distortions on the island of Ireland particularly for cross-border waste flows. Failure to align these fiscal signals risks creating significant price differentials between jurisdictions.[661–663] Historically these have driven increased waste crime across the border to avoid higher disposal costs.[664,665]

The NI Food Strategy Framework and Action Plan provide strategic context but lack detailed implementation pathways for waste reduction. Food waste programmes are largely voluntary and delivered by WRAP. While aligned with prevention principles, food waste remains high and biodegradable waste continues to represent over half of landfill content. Opportunities to embed stronger food waste reduction measures were not fully realised in the Food Strategy.

The absence of implementing regulations under the Environmental Better Regulation Act (Northern Ireland) 2016 remains a critical missed opportunity in waste crime prevention. However, opportunities exist to strengthen waste monitoring and enforcement.[611] Improved domestic tracking, through the UK-wide digital waste tracking system, can address the longstanding data gaps (approximately 90% of waste movements are unmonitored). Meanwhile, the proposed fly-tipping app can standardise incident recording across all local councils. At the same time enhanced controls and enforcement of Transfrontier Waste Shipments can act on this intelligence to reduce illegal activity and improve transparency. By working together under the fly-tipping protocol, local councils and the Northern Ireland Environment Agency can use these tools to coordinate enforcement, make better use of resources, and support progress towards recycling and landfill targets.

Recommendations for waste management

Recommendation 1: Subject to Executive approval, DAERA should prioritise the rapid finalisation, publication and implementation of the draft Rethinking our Resources: Northern Ireland Resources and Waste Management Strategy. It should be supported by a clear delivery plan, defined responsibilities and adequate resourcing.

Recommendation 2: DAERA should build on its comprehensive waste statistics by developing a target-linked performance management framework. This needs to connect existing local council metrics to interim milestones and enable transparent benchmarking of progress against recycling and landfill reduction targets to support accountability and continuous improvement.

Recommendation 3: DAERA should accelerate the reduction of household food waste by mandating consistent separate food waste collection across all local councils supported by clear services standards. This should be complemented by strengthened policy measures beyond voluntary behaviour change campaigns. Monitoring of food waste arising and capture rates should be improved to inform assessment of progress towards targets.

Table 6.4.4 Waste management – summary assessment

Past trends	Waste generation levels have remained stable and recycling rates have stagnated in recent years. There has been progress in landfill diversion, although most of the waste is exported for energy recovery. More limited advances have been made in waste prevention, recycling and higher-value resource recovery.	**Trends show a mixed picture**
Progress in the reporting period	Progress has been constrained by delays, reliance on pilot initiatives and a gap between policy intent and operational implementation. The policy framework is developing with a clear direction but remains largely at pre-implementation stage. There has been limited step-change in prevention or system redesign.	**Limited**
Overall prospects of meeting ambitions, targets and outcomes	Landfill diversion is likely to continue, although capacity is facing a critical shortage. Policy implementation must speed up to meet recycling targets. Achieving 60% recycling by 2030 and 65% by 2035 will not be achieved without an increase in the scale and pace of action.	**Largely off track**
Robustness	The assessment has primarily used publicly available evidence, including official statistics, commissioned research on waste management and waste crime, and policy documentation, supplemented by expert judgement where data limitations or gaps in monitoring remain.	

6.5 Conclusions

Resource use and waste management remain fragmented within the current policy landscape, and Northern Ireland is not yet on a credible pathway to a zero waste and circular economy. While alignment between circular economy ambitions, climate objectives and waste policy has improved, a gap remains between stated intent and delivery. Addressing this requires a more integrated approach across strategies, regulatory frameworks and economic instruments.

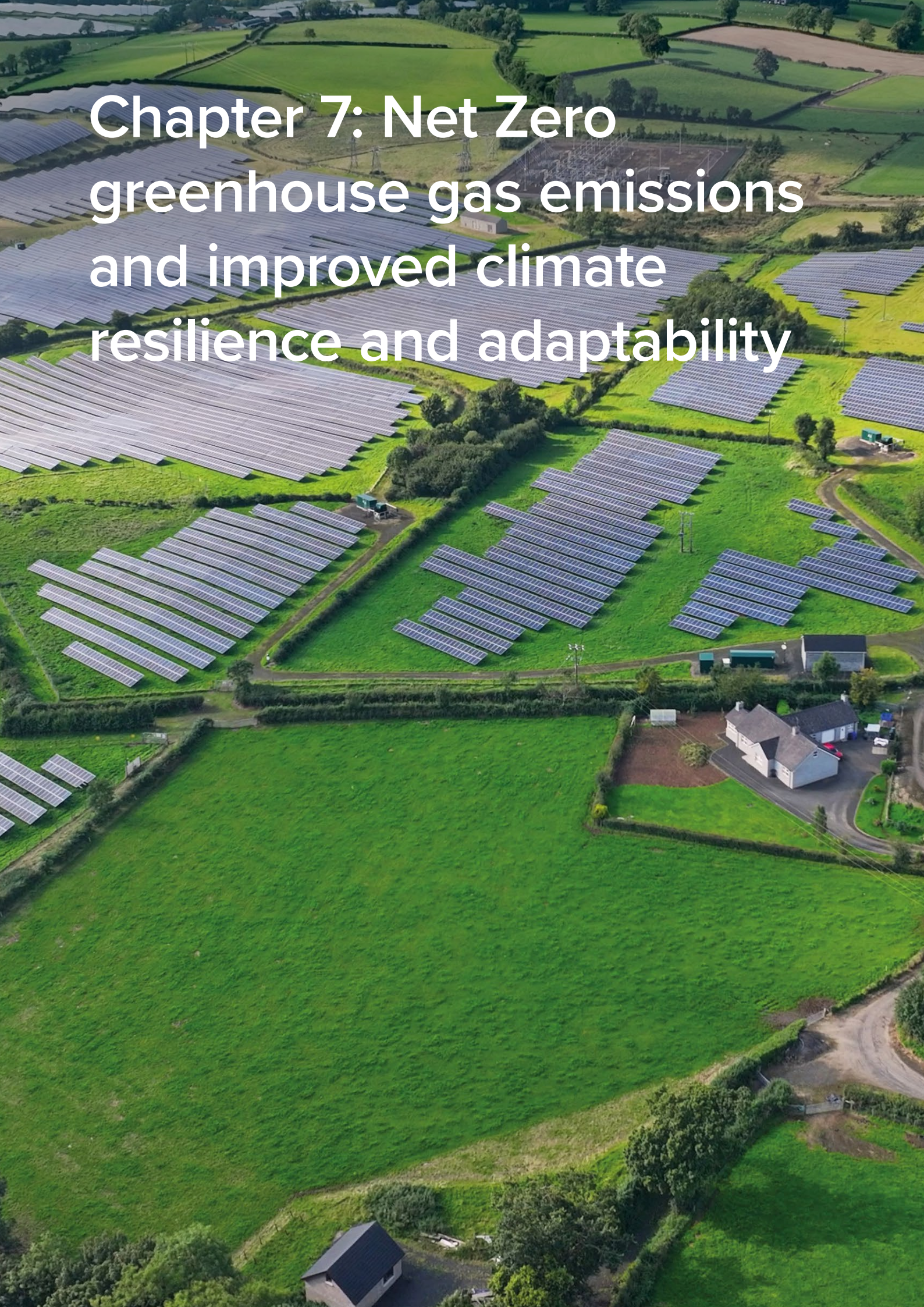
Circular economy and waste management are not separate agendas but form a single system (see Figure 6.2.1). The Executive and its departments have direct control across the full policy cycle, from waste prevention and reuse to product design and remanufacture. Greater emphasis is now needed on upstream measures. This is where the highest environmental and climate benefits can be achieved but where policy action remains limited. Embedding these priorities through the Environment Principles Policy Statement will be critical in ensuring that prevention, environmental protection and resource efficiency are systematically considered in decision making from 2026 onward.[526]

Public sector leadership will be central to accelerating this transition. Green Public Procurement, given the scale of public spending, is a particularly powerful but underutilised lever.[666] The Executive has already set a strategic direction through its Public Procurement Statement and commitment to a green growth aligned procurement strategy. However, there is scope to act immediately by embedding circular and resource efficiency criteria within existing procurement processes. Prioritising reused, recycled, repairable and low-impact products would send strong market signals, reduce the material footprint of public expenditure, and support progress towards the 2050 circular economy target. Emerging practice among local councils demonstrates that such approaches are both feasible and scalable.[667,668]

At the same time, policy and investment decisions must avoid reinforcing reliance on residual waste treatment. While tools such as EPR can shift lifecycle accountability onto producers and incentivise better product design, their effectiveness will depend on strong implementation and alignment with broader circular economy objectives. NI Executive Departments should therefore demonstrate how their procurement, regulatory and investment decisions support circular material use and comply with the Environment Principles Policy Statement.

In summary, accelerating the transition to a circular economy will depend on prioritising waste prevention, strengthening upstream interventions, and fully leveraging public sector influence. This must be supported by improved governance, data systems and infrastructure alignment to ensure long-term environment, climate and resource use targets and outcomes are achieved.

Chapter 7: Net Zero greenhouse gas emissions and improved climate resilience and adaptability



Chapter 7: Net Zero greenhouse gas emissions and improved climate resilience and adaptability

7.1 Summary assessment

Climate change impacts are increasing, causing loss and damage to the environment. Northern Ireland has an ambitious target to meet net zero greenhouse gas emissions by 2050, and a vision of an environment, society and economy that is resilient and well adapted to the current and predicted impacts of climate change.

Emissions of greenhouse gases are at their lowest level since 1990. Over the last five years emissions have decreased across most economic sectors, although some such as agriculture and land use have shown little to no change. Climate risks continue to rise, and collective trends point to limited resilience of the natural environment to these risks.

In recent years action has been taken across most key sectors to mitigate and adapt to climate change. However overall delivery remains slow with further progress needed in sectors such as land use and agriculture to meet targets. Missed statutory deadlines and persistent delays to key strategies have limited progress and as a result many programmes are still at an early stage of development.

Northern Ireland is largely on track to meet the first carbon budget. However, the overall prospects of meeting medium and long-term targets and commitments are largely off track. The pace and scale of delivery are not enough to meet net zero by 2050, or to keep up with growing climate risks.

There is a strong statutory framework for addressing climate change. To realise its potential, delays must be addressed and more ambitious strategies developed and delivered. The pace and scale of implementation must speed up to improve prospects. A consistent and meaningful application of the just transition principle will enable the Executive to build the support it needs to achieve a fair and effective transition as envisaged in the Environmental Improvement Plan.

Table 7.1 Net Zero greenhouse gas emissions and improved climate resilience and adaptability – summary assessment

Theme	Past trends	Progress	Overall prospects
Climate change mitigation	**Improving trends dominate**	**Mixed**	**Largely off track**
Climate change adaptation	**Trends show a mixed picture**	**Limited**	**Largely off track**

7.2 Context and commitments

The climate and nature crises are fundamentally linked. Climate change is a major pressure on the natural environment, and in turn a healthy natural environment is critical for effective adaptation and mitigation. To protect and significantly improve the environment in the years ahead, climate change must be curbed through mitigation measures, and its impacts managed through adaptation.

This strategic environmental outcome (SEO6) focuses on achieving net zero greenhouse gas emissions and improved climate resilience and adaptability. It is central to Northern Ireland's transition to a low carbon and climate resilient future. SEO6 is underpinned by the concept of a just transition, which aims to ensure actions are delivered in a way that works with and for the Northern Ireland population.

There is a strong statutory framework underpinning the devolved policy landscape for addressing climate change. For mitigation, the Climate Change Act (Northern Ireland) 2022 (CCA NI) sets a highly ambitious headline target to reduce emissions of greenhouse gases to net zero from 1990 levels by 2050, with interim targets for 2030 and 2040.[27] The CCA NI complements the UK level Climate Change Act 2008, and the 2050 target set within it, to which Northern Ireland must contribute to.[501]

The CCA NI, requires the publication of Climate Action Plans (CAPs), which set out delivery plans to meet statutory five-year carbon budgets on the pathway to 2050. The CAPs have the potential to contribute to addressing both the climate and biodiversity crises, as they also set related targets on soil quality, biodiversity and air quality. The draft CAP for the first budgetary period (2023-2027) was consulted on from June to October 2025, and the final version is yet to be published. After an initial delay, the first three carbon budgets have been set in law, covering the period 2023 to 2037.[669] The fourth carbon budget up to 2042 was consulted on from July to November 2025.

The CCA NI also requires statutory sectoral plans to be published, that must demonstrate how policies will contribute to the 2030, 2040 and 2050 targets. They cover, among other areas, transport, energy, waste and agriculture, and include subsidiary targets, for example, that at least 80% of electricity consumption is from renewable sources by 2030 (see Chapter 5).

On adaptation, action is driven by the Climate Change Act 2008, which requires publication of a Northern Ireland Climate Change Adaptation Programme (NICCAP) every five years. NICCAPs set out cross-department actions to address the risks and opportunities identified in the UK Climate Change Risk Assessments.

The third NICCAP (NICCAP3) covering the period 2024 to 2029 has the overall vision of achieving 'a future where Northern Ireland is well adapted and resilient to the impacts of climate change and recognises the economic, social, health and environmental benefits that this will bring'.[670] Natural capital is one of five key priority areas, comprising 102 actions that focus on habitat restoration, creation and management.

There are no statutory targets for adaptation in Northern Ireland. However, the UK is committed to relatively robust international commitments, including the global goal on adaptation under the Paris Agreement on climate change, as well as Target 8 of the Global Biodiversity Framework to 'minimise the impacts of climate change on biodiversity and build resilience'.[249]

The CCA NI has also ushered in a new governance regime on climate change by requiring the establishment of two oversight bodies. The independent Northern Ireland Climate Commissioner will oversee and report on the operations of the CCA NI. The Just Transition Commission will oversee and provide advice to government on the just transition principle, to ensure that the shift to a low carbon, climate resilient economy is fair and inclusive. Finally, the CCA NI and the Climate Change (Reporting Bodies) Regulations (Northern Ireland) 2024 introduced duties on specific public bodies to regularly report on proposals and policies, and progress made, for reducing greenhouse gas emissions and addressing climate risks.

7.3 Climate change mitigation

7.3.1 Key environmental trends

A summary assessment is provided in Table 7.3.1 with further details below.

Emissions of greenhouse gases are 31.5% lower than in 1990, with Northern Ireland contributing just below 5% of total UK emissions in 2023.[425] Between 2018 and 2023 this trend continued with a statistically significant decline in total emissions of 13.4%. Overall, improving trends dominated across sectors of the economy (one deteriorated, two showed little to no change, and five improved) (Figure 7.3.1).[425]

Between 2018 and 2023 the decline in emissions has been driven largely by the buildings and product use sector, and the electricity supply sectors where emissions reduced by 28.6% and 26.9% respectively.[671] In 2023, these sectors contributed over one quarter of total emissions.

These trends reflect improvements to the energy efficiency of dwellings and the phase out of coal.[671] In 2023, 47% of electricity consumed was from renewable sources, of which 72% was sourced from wind. The percentage of electricity consumed from renewable sources has shown little to no change over the last five years.[449]

Between 2018 and 2023 emissions from the domestic transport sector reduced by 13.5% and now contribute over 21% of total emissions.[425] However, most of this decline occurred between 2019 and 2020. This has been attributed to reduced road traffic flows due to Covid-19 pandemic lockdown restrictions. Since then, emissions have rebounded slightly but have remained relatively consistent for the last three years. This stagnation reflects increased vehicle numbers and the relatively slow adoption of zero emission vehicles (ZEV).

The rate of emissions reduction varies between sectors. Emissions from agriculture represent the largest proportion of total national emissions, contributing 31% in 2023.[671] From 2018 to 2023 they showed little to no change, reducing by less than 1%. Greenhouse gases from the sector are primarily methane from livestock and nitrous oxide from manures, slurries, and fertilisers.[672] Overall declines in emissions from some areas such as agricultural soils and combustion have been offset by increases in emissions from livestock.[673]

A similar trend is found in the land use change sector, which contributes 12% of total emissions. The main contributors to net emissions from this sector are peatlands, and the relatively low woodland cover. Other sources include settlements and croplands, partially offset by removals by grassland and forests.[54,674]

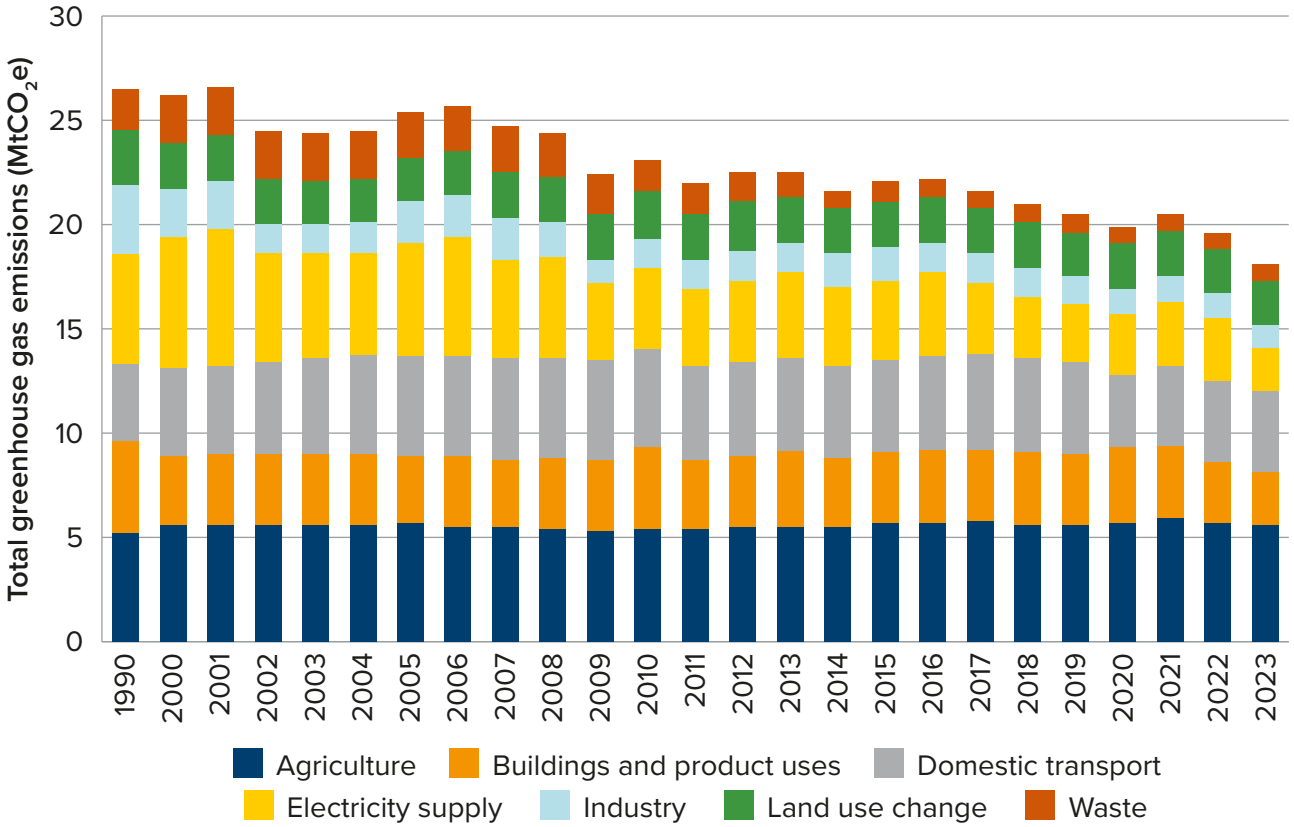


Figure 7.3.1 Emissions of greenhouse gases in Northern Ireland by sector measured in million tonnes of carbon dioxide equivalent ($MtCO_2e$)[425]

Table 7.3.1 Climate change mitigation – summary assessment of key short-term trends

Indicator	Indicator trend	Indicator time period
Total Greenhouse Gas Emissions in Northern Ireland	↓	2018-2023

7.3.2 Progress towards ambitions, targets and outcomes

Progress over the reporting period towards mitigating emissions of greenhouse gases was mixed. A summary assessment is provided in Table 7.3.2 with further detail below.

The APR 2026 reports progress in relation to eight actions.[40] These are focused on delivering the requirements of the CCA NI and the Climate Change Act 2008 and include publishing plans, setting targets, and establishing governance mechanisms. Within the reporting period seven of the eight actions have been progressed, however this provides only a partial picture. For example, the assessment that multiple actions are now progressing on a new timeline does not clearly reflect that statutory deadlines have been missed, and delivery in some areas is significantly delayed.

The APR 2026 also provides a partial picture of actions delivered that contribute towards SEO6 targets and commitments. We have identified additional reporting year actions that we consider in our assessment.

Overall, actions are being taken in most source sectors and emissions have decreased. However, there are areas, such as agriculture, where progress is slow and implementation remains limited. Emissions reduction in other areas including transport have also plateaued.[675]

During the reporting period, the first three carbon budgets were set in law in December 2024, covering the period 2023 to 2037. While the statutory deadline to set the budgets was missed, this represents a significant milestone in the implementation of the CCA NI and aligns long-term objectives with UK-wide climate commitments. Additionally, in July 2025 DAERA launched a consultation on the establishment of the fourth carbon budget (2038 to 2042).[676] The consultation proposes a 77% reduction, a challenging but achievable target that aligns with the Climate Change Committee's (CCC) advice.[677]

The proposals and policies to achieve the carbon budgets, interim targets and the target of net zero by 2050 must be set out in CAPs.[53] The APR 2026 reports that the EIP action to publish the CAP for the first budgetary period (2023 to 2027) is progressing to a new timeline. This is an accurate assessment, and we acknowledge the work underway. However, the statutory deadline of June 2024 has been missed. Over the reporting period, DAERA launched a consultation on the draft CAP in July 2025, but a response to the consultation has not been published, and a final CAP is still awaited.

The delays to publication of the CAP undermine the strong statutory framework put in place through the CCA NI. Long-term, ambitious plans and their effective implementation are critical to meeting the target of net zero by 2050. With the first carbon budget nearing completion in 2027 with no CAP in place, this limits how ambitious the final plan can be, and the extent to which it can make a meaningful contribution to the first carbon budget. In its draft form, there was much to welcome, but the targets for soil quality, biodiversity and air quality do not meet the legal requirements of the CCA NI. It is not clear that they have been set in a way best calculated to achieve the 2023 to 2027 carbon budget. Nor do they establish a clear baseline from which progress will be measured.[52]

The draft Green Growth Strategy outlines a multi-decade plan to address climate, environmental, and economic objectives, and was released for consultation in 2021. It will be a key overarching strategy that needs to be finalised and published to support progress towards net zero. The strategy sets out a vision and a framework for delivery, with the stated aim of ensuring climate action and environmental responsibility is at the heart of all government policy making. Together, the CAPs and Green Growth Strategy could provide a comprehensive policy framework to address climate change and ensure sustainable economic development. However neither is published, progress towards finalising the Green Growth Strategy has been limited, and the timeline for publication remains unclear.[247]

Delivering the actions set out in the CAPs will require ongoing prioritisation, shared ownership, and effective cross-government working. The APR 2026 reflects this, specifying that delivery of climate actions requires a whole-of-government approach. To enable this, robust governance structures need to be established along with clear accountability and reporting mechanisms to keep progress on track.

Over the reporting period, the Northern Ireland Climate Commissioner Regulations (Northern Ireland) 2025 came into operation, and the APR 2026 reports that the EIP action to lay the first draft regulations in the Assembly by December 2024 is complete.[678] While these developments are promising, the statutory deadline for the regulations was missed.

Although there is no statutory deadline for the appointment of a Commissioner, this remains outstanding.

The APR 2026 reports that action taken to establish the Just Transition Commission is progressing in line with the EIP target. A consultation on establishing the Just Transition Commission closed in January 2025, and the Assembly subsequently approved legislation in April 2026.[679] The draft CAP had originally committed to making the regulations to establish the commission within 2025, however this approval represents a significant step forward (see Box 7.1).[680] The Minister has committed to establishing the Just Transition Commission without delay, with representation from a range of sectors including agriculture, the environment, energy, transport, green finance, trade unions and youth groups. There is a clear plan in place to establish these key governance mechanisms, and progress has been made. However, implementation has been slow leaving a critical gap in oversight for over half the first carbon budget period.

In addition to establishing a clear set of targets and a strong policy and governance framework at a strategic level, actions must be delivered at sectoral level. Sectoral plans are required by the CCA NI to reduce emissions, however they are yet to be put in place.

Emission reductions in recent years have been led by the energy, industry and waste sectors, supported by the Energy Strategy and Path to Net Zero Energy (2021 to 2025). Northern Ireland has a statutory target to ensure that at least 80% of electricity consumption is from renewable sources by 2030 (see Chapter 5). In 2025 47% of electricity was generated from renewables, compared to 44% the previous year.[449,681] The recently published Renewable Electricity Price Guarantee is a positive step in supporting investment into renewables, however the rate of production will need to nearly double to meet the target.[682] Going forward, the majority of renewable energy is expected to come from offshore wind, yet the amount of renewable energy produced by wind has shown little to no change since 2019.[449]

Currently, there are no viable offshore wind developments in Northern Irish seas, which will be needed to address this gap. Over the reporting period the Offshore Renewable Energy Action Plan was published. This was after the Crown Estate agreed a statement of intent towards the establishment of offshore wind leasing in Northern Ireland, a promising development.[458,683] The launch of the Department for the Economy GeoEnergy NI project will support the delivery of geothermal and low-carbon heat which are also critical to the transition to renewable heat and power.[10,684]

The midterm review of the Energy Strategy, and Energy Strategy Action Plan Report were published over the reporting period. Overall, the energy sector has made significant progress, but the midterm review identifies key barriers to delivery, including a lack of institutional capacity and resourcing, and policy and governance fragmentation. It also notes that grid constraints are limiting current progress.[685] These issues will need to be addressed to ensure the sector is in a position to meet its long-term targets.

Domestic transport is the second largest contributing sector to total greenhouse gas emissions. The CCC recommends that by 2040, more than three-quarters of cars and vans, and more than half of heavy goods vehicles on the road in Northern Ireland should be fully electric to help in meeting net zero targets.[54] This will also deliver public health benefits through improvements to air quality (see Chapter 2).

The statutory ZEV mandate came into force in January 2025, aligning the region with the wider UK regulatory framework.[686] The ZEV mandate requires 80% of new cars and 70% of new vans to be zero emissions by 2030, and 100% by 2035.[687,688] This is a promising development as the ZEV mandate has been working effectively to stimulate the market in England.[689] Uptake of ZEVs has increased over the last five years, from less than 1% of new vehicle registrations to over 13% in 2024. However, the rate of uptake is not currently sufficient to meet targets. As of September 2025, ZEVs accounted for 2.5% of the vehicle fleet in Northern Ireland.[690]

The number of publicly available electric charging devices continues to climb across the UK. It has increased by more than three-fold over the last five years (January 2021 to January 2026), and by approximately 23% over the reporting period (October 2024 to October 2025).[691] However, the distribution of charging devices is not uniform. Northern Ireland has a low level of charging device provision with 59 EV chargers per 100,000 population, compared to a UK average of 172 as of April 2026.[692]

Roll out will need to speed up to meet the ZEV mandate targets. Public willingness to purchase ZEVs is in decline, with high purchase costs, and concerns about the reliability and accessibility of charging infrastructure identified as the main barriers to uptake.[675,693] Increasing the rate of uptake will likely require a decrease in upfront costs to make the transition more accessible, as well as major investment in charging infrastructure.[675] The introduction of the Electric Car Grant scheme is welcome, which will provide grants toward purchase costs.[694]

In the residential sector, there have been strong commitments made to reduce the carbon footprint of buildings. Over the reporting period, the Northern Ireland Sustainable Energy Programme was extended until March 2027, and framework documents for 2025/27 were published. Schemes such as the Affordable Warmth Scheme for low-income households and the Low Carbon Programme are supporting energy efficiency improvements in domestic properties. These programmes have made good progress in speeding up the reduction of climate emissions in the housing sector in recent years.[695,696]

In the waste sector, it was announced that from 2028 the UK Emissions Trading Scheme will impose a carbon price on emissions from incinerated waste. While the intent is to encourage recycling over incineration, the expense may result in greater amounts of waste being diverted to landfill sites, potentially increasing emissions from other sources (see Chapter 6).[642,645]

Agriculture, particularly intensive livestock farming, is the largest single source of emissions. It is critical to reduce emissions from the sector to address the projected gap between emissions levels and the net zero target in 2050. This will require a rapid transition to low carbon farming practices, changes to land use and a reduction in livestock numbers.

The draft CAP includes initiatives to reduce methane and nitrous oxide emissions, which will support net zero by 2050. It identifies the Sustainable Agriculture Programme (SAP), launched in 2024, as the primary mechanism underpinning mitigation and adaptation action in the sector. The SAP schemes identified include the Farm Sustainability Payment Scheme, Beef Sustainability Package, comprising the Beef Carbon Reduction Scheme and the Suckler Cow Scheme.[166]

In addition, the Soil Nutrient Health Scheme aims to provide a baseline estimate of carbon stocks of fields and hedgerows, enabling more sustainable management of carbon stocks on farms. The Ruminant Genetics Programme is also anticipated to further contribute to emission reductions by enabling the selection of cattle with lower emissions profiles. These schemes combined will then aid the forthcoming Carbon Footprinting Programme.[697,52,438,434]

Uptake of these schemes has been promising, indicating a receptiveness within the sector to nature friendly and low emission farming techniques, if the right incentives are in place. DAERA informed us that overall 93% of farm businesses have registered to participate in the Soil Nutrient Health Scheme, and 98% of eligible farmers enrolled in the first year of the Beef Carbon Reduction Scheme. The latter scheme has already led to a reported reduction of 43.1 kilotonnes of carbon dioxide equivalent and 177.7 tonnes of ammonia nitrogen.[431,698]

There has been a 4% decline in total agriculture emissions between 2021 and 2023, with the draft CAP projecting a further 10% decline between 2023 and 2027 for the sector to meet its contribution to the first carbon budget. There are promising signs in uptake and measured reductions from specific schemes. However, in other areas progress has been more limited. For example, the draft CAP projects a 7% decline in total cattle numbers by 2027, but between 2021 and 2025 they showed little to no change, decreasing by 2.1%.[699] If roll out of the schemes continues and they are implemented effectively, the sector is likely to meet its commitments to the first carbon budget, however the potential continued impact over the longer term is less clear.

The progress made to develop the draft CAP is welcome. It is clear that schemes designed to introduce low-carbon farming methods are being effectively rolled out.[54] However, there are significant risks in the draft CAP. There is a reliance on future technology and innovation to reduce emissions from the agriculture sector, but the pathway of how this will be delivered is not clear.[700] For example, this includes the use of methane-supressing feed products in livestock diets.[54] There are also opportunities to further cut emissions using Nature Based Solutions (NbS) through the draft CAP and better integrating NbS into nature friendly farming schemes. The Farming with Nature Transition Scheme is a promising step but the full roll out and increased uptake of the Farming with Nature Scheme is required.[700]

It is important to ensure that plans in this sector adhere to the just transition principle. The Just Transition Fund for Agriculture, required under the CCA NI, will provide advice and financial assistance to the sector to help meet targets set out in the CAPs. The fund presents an opportunity to address these challenges, but it has not yet been established. There are indications that the Fund will be delivered through the Sustainable Agriculture Programme, but the timelines are not clear. This leaves the sector without clear direction and support to implement the just transition principle.[701]

For the land use sector, peatland restoration, woodland creation and energy crops are key to meeting long-term targets and are needed to offset projected residual emissions from the agriculture sector in 2050.

The CCC state that a significant acceleration of woodland creation is required for effective woodland carbon sequestration. Increasing woodland cover from approximately 8% to 12% by 2040, requires annual planting rates to peak at 2,800 hectares by 2036, as well as a significant increase in the proportion of peatland under restoration.[54,262] However, planting rates remain below required levels and are likely too low to support the amount of carbon sequestration needed in the future. Tree planting has increased from 280 hectares

in 2020/2021 to 500 hectares in 2024/2025, this is still five times lower than the CCC's recommended rate.[54,271,322]

Regarding peatlands, of the 240,000 hectares, approximately 80% is degraded.[262] Progress to improve the current situation has been limited. However, the Northern Ireland Peatland Strategy to 2040 aims to bring 150,000 hectares under restoration or sustainable management by 2050 closely aligning with CCC advice (see Chapter 4).[87] The initial peatland strategy delivery plan was also published in April 2026, which commits to putting a funding mechanism in place to support upscaling peatland restoration in line with CAP targets, and to have 4,500 hectares of peatland on the road to recovery through current funding mechanism, by December 2027.

The Northern Ireland Blue Carbon Action Plan 2025-2030 published in April 2025, also represents a positive step towards using NbS to address climate change. Overall, land use remains a significant source of emissions and progress has been limited relative to the action needed to meet targets.

To address residual emissions in 2050, the CCC's proposed net zero pathway also requires new technologies, including engineered removals through multiple types of carbon capture.[54] This includes technologies such as direct air capture, in addition to other land use measures such as biomethane production through anaerobic digestion of waste. In the pathway, engineered removals start contributing around 2030, albeit at low levels.

We welcome financial investment through the Sustainable Utilisation of Livestock Slurry Programme Phase 2 (see Chapter 6), and the consultation on developing biomethane production in Northern Ireland held in May 2024, which will contribute to the development of biogas production capabilities.[108,590] However, the development of engineered removals capabilities is generally at an early stage, and there have been no engineered removals of notable scale recorded to date in Northern Ireland. These new technologies will require significant investment and time to develop the necessary infrastructure.[702,703]

Overall progress towards the set of statutory targets on reducing greenhouse gas emissions has been mixed. However, progress towards the first carbon budget, which requires an annual average of 33% lower emissions relative to 1990 between 2023 and 2027, has been better than expected. DAERA's most recently published projections, based on 2021 emissions data, predicted a 3.2% decline in emissions between 2021 and 2023.[704] The most recent inventory, which reports emissions up to 2023, shows a decline of 11.7% over that period, bringing overall reductions relative to 1990 to 31.6%, ahead of the draft CAP schedule (29.1% by 2023 relative to 1990).[425]

This discrepancy is largely driven by better than expected reductions from the agriculture and residential sectors, and earlier than projected reductions from the energy supply sector. While this will improve the prospects of meeting targets, overall progress over the reporting period indicates that major gaps remain in policy and implementation.

Box 7.1 A just transition for Northern Ireland

The CCA NI enshrines the Just Transition Principle in law, the aim of which is to ensure the move to a net zero, climate resilient economy works with and for the population, by preventing the unequal distribution of costs and benefits.

The CCA NI requires the establishment of a Just Transition Commission to provide oversight and advice to departments on how to align policies with the principle, as well as funding mechanisms such as the Just Transition Fund for Agriculture, and the consideration of the principle in national and sectoral delivery plans.

Evidence shows that applying a just transition approach can significantly reduce the risk of policies failing at a later stage.[247,705–709] The public's support for policies and their willingness to engage can depend on how fair the policies are perceived to be. A just transition approach will be a critical enabler for increasing the urgency and scale of delivery needed to meet net zero and to keep pace with increasing climate risks.

The Assembly's approval of legislation in April 2026 represents a significant step forward. However, overall progress has been slow. The Commission is yet to be established, leaving a critical governance gap and a lack of stimulus to drive progress.

Lessons learnt from previous initiatives show that placing a just transition on a statutory footing, while important, is not enough on its own. Without meaningful public participation, consistent application of the principle, and sufficient resources, these mechanisms can struggle to deliver tangible outcomes.

The Commission must be supported by robust accountability and reporting mechanisms to ensure consistent and meaningful public engagement, as well as integration of the principle into clear transition plans and decision making across all NI Executive Departments from design to delivery. The Commission will also need to develop the necessary guidance and support mechanisms to ensure a consistent approach and ensure that adequate resources and expertise are in place.

Close collaboration between the Commission and its counterpart organisations across these islands, particularly the Just Transition Commission of Ireland, will be important to meeting the shared challenge, and represents an opportunity to gain knowledge and expertise. Overall, the progress made to place a just transition at the core of climate policy framework is welcome, providing a real opportunity to speed up delivery. However further work is needed to implement it effectively.

Table 7.3.2 Climate change mitigation – summary assessment of progress over the annual reporting period towards meeting targets and outcomes

Targets and outcomes	Progress
Net zero greenhouse gas emissions in Northern Ireland by 2050, including Carbon Budgets 1, 2 and 3, and the 2030 and 2040 emissions targets	**Mixed**

7.3.3 Prospects of meeting ambitions, targets and outcomes

A summary assessment is provided in Table 7.3.3 with further detail below.

The better than anticipated decline in emissions in recent years means that rates of emissions reduction are now ahead of the schedule set out in the draft CAP, and so the first carbon budget is largely on track (Figure 7.3.2). However, overall prospects of achieving net zero by 2050, and the set of statutory targets that set a pathway to it after 2027, are largely off track. This includes Carbon Budgets two and three set out in the Climate Change (Carbon Budgets 2021-2037) Regulations (Northern Ireland) 2024, and the 2030 and 2040 interim targets set in the CCA NI.[669]

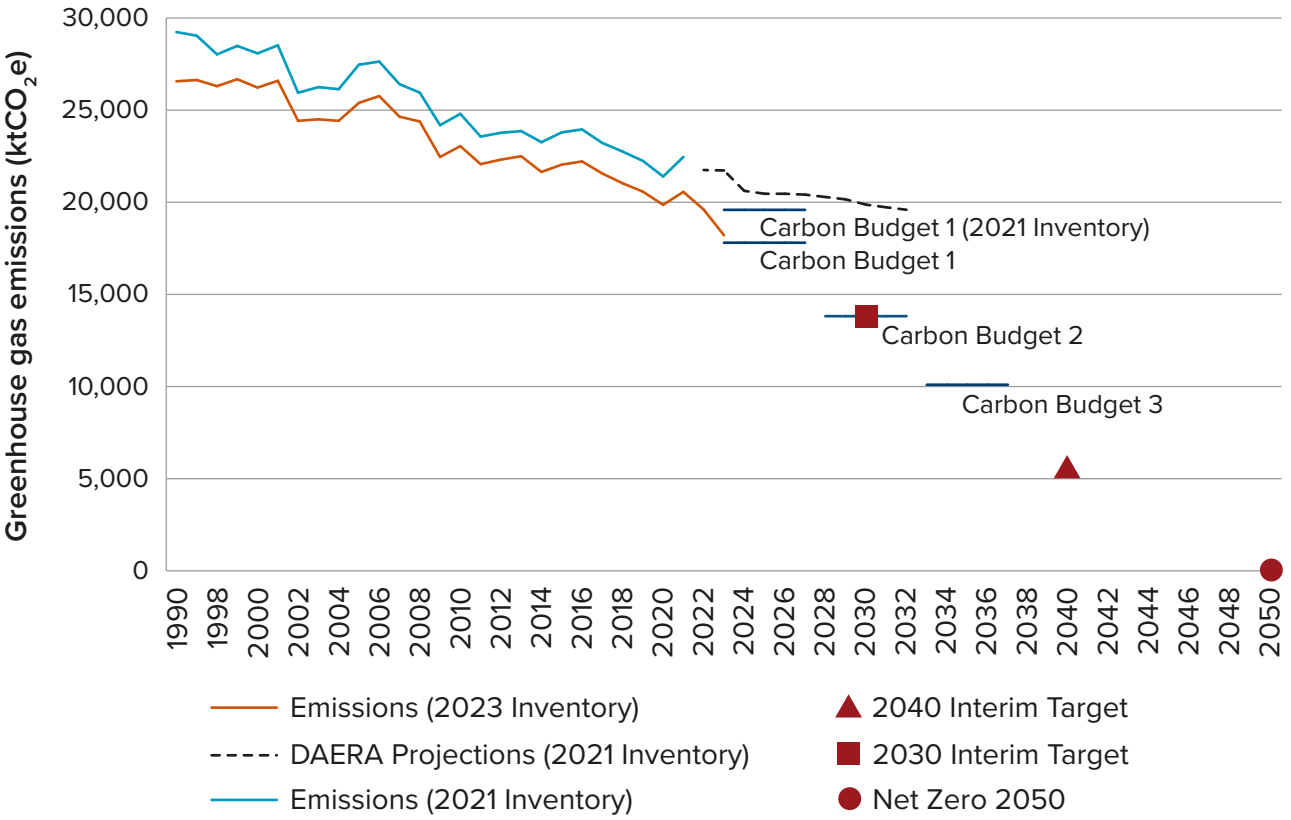


Figure 7.3.2 Total emissions of greenhouse gases in Northern Ireland (2021 and 2023 inventories) and the most recent projections available (which are based on the 2021 inventory). Statutory emissions targets are also shown, including carbon budgets 1-3, the 2030 and 2040 interim targets, and net zero 2050. The difference between the 2021 and 2023 inventories is because the full inventory is updated each year, therefore any methodological updates result in retrospective revisions to historical emissions levels. Carbon budget 1 is plotted showing emissions reductions over the five-year period relative to 1990 for the 2023 inventory but is also plotted relative to the 2021 inventory to provide context for the projections, which are based on the 2021 inventory

The approach to climate change is grounded in collaboration, statutory commitment, and long-term strategic planning.[11] However, there are persistent delays, leaving key strategies such as the CAP in draft form, critical policies and programmes at an early stage of development, and major gaps in the governance framework.

If these issues are urgently addressed the prospects of meeting the second carbon budget and the 2030 interim target would significantly improve. Emissions need to fall by an additional 24% relative to 2023 levels to meet the second carbon budget emissions level.[425] There is previous demonstration of rapid progress in reducing sectoral emissions, for example the Department for the Economy in electricity supply. In addition, the recent uptake of mitigation focused schemes in the agricultural sector such as the Soil Nutrient Health Scheme and Beef Carbon Reduction Scheme shows that when the right incentives are there, policies can be well supported. The just transition principle provides a further opportunity to enable the necessary increase in pace and scale, if implemented effectively.

However, to meet the long-term subsequent carbon budgets and net zero by 2050, significant investment will be required in areas such as biomethane production and carbon capture and storage. Continued investment in these areas is needed due to the significant lead in time required to develop the necessary technologies and infrastructure. Currently no policies or infrastructure are in place for carbon capture in Northern Ireland.[710,711]

Delivery will also have to increase in pace and scale across multiple sectors. The CCC's balanced pathway suggests an 83% reduction in emissions can be met by 2050, with residual emissions predominantly coming from the agriculture sector. Reducing agricultural emissions is therefore critical to improving prospects of meeting net zero.[262] There has been progress in the roll out of key levers to provide this support, such as through the SAP and programmes within it, such as the awaited Carbon Footprinting Project which is expected to assist farmers track their emissions reductions. However, the impact on emissions is yet to be seen.[438] Further action will also be needed in the road transport sector to facilitate an increase in uptake of ZEVs, and in the land use sector to significantly increase the rate of tree planting and peatland restoration. The right incentives and support will have to be in place to enable these shifts.

Delivering these improvements will require clear strategic direction. The CAP will play a key role in setting this direction and driving action towards the net zero by 2050 target. While some progress has been made in developing the draft CAP, finalisation of the plan has been very slow. Consequently, the first CAP will now be published towards the end of the first budgetary period, which significantly limits the level of ambition the strategy can set, both in terms of proposed actions, and the supporting targets it sets on soil quality, air quality and biodiversity.[52]

Continued delays will continue to undermine the strength of the statutory framework and further impact the prospects of meeting net zero by 2050, and wider environmental targets. Delivering the CAP will also require ongoing prioritisation and effective cross-government responsibility and actions, with public engagement essential to maintaining momentum.[11] This will need a robust governance framework along with clear accountability and reporting mechanisms to keep progress on track. The continued delays to establishing the Just Transition Commission and Northern Ireland Climate Commissioner are therefore likely to significantly hamper prospects.

Table 7.3.3 Climate change mitigation – summary assessment of prospects of meeting targets and outcomes

Targets and outcomes	Prospects
Net zero greenhouse gas emissions in Northern Ireland by 2050, including carbon budgets 1, 2 and 3, and the 2030 and 2040 emissions targets	**Largely off track**

7.3.4 Opportunities for improvement

There are multiple opportunities to improve the prospects of delivering a net zero, resilient economy.

The CAP statutory cycle facilitates the periodic development and update of plans that set the pathway to net zero. It also provides the opportunity to set supporting targets across wider environmental domains to contribute to net zero. This could ensure alignment of action across mitigation, adaptation, and nature recovery. However, due to delays in development of the CAP for the first budgetary period, the first draft CAP lacks ambition, leaving unrealised potential. The draft CAP targets are necessarily modest. However, they should pave the way for more ambitious interim targets in subsequent budgetary periods, setting trajectories for meeting longer term targets. Development of the second CAP presents an important opportunity to reset the statutory cycle and address these gaps through establishing a coherent, ambitious plan which supports the long-term planning needed for meeting net zero and supporting targets by 2050.

The EIP identifies cross-sector collaboration and public engagement as key to delivery of these plans. Research shows that when policies are deemed to be fair – further and faster delivery can be achieved.[705–708] This means that meaningful application of the just transition principle could be an essential enabler to achieving net zero by 2050. Strong ownership and coordination across NI Executive Departments will be vital to the implementation of the just transition principle and will drive an increase in the pace and scale of delivery of CAPs. The statutory obligations to establish a Northern Ireland Climate Commissioner and Just Transition Commission make this possible to achieve. However, robust monitoring and reporting regimes must be in place and adequately resourced.

There are also multiple opportunities within specific sectors. The proposed NbS plan offers a chance to increase ambition in areas such as tree planting and peatland restoration, and to ensure coherence with, and integrate NbS in key agricultural sector programmes. Other opportunities include adhering to the ZEV mandate and supporting delivery partners to roll out charging infrastructure.

In addition, the development of a carbon capture and storage strategy should be considered to demonstrate how the necessary infrastructure can be developed in time to meet net zero, and to further roll out biomethane infrastructure. However, trade-offs with other issues such as air quality will need to be carefully managed. Offshore wind also provides a significant untapped opportunity to accelerate decarbonisation of the energy sector, which Northern Ireland is strategically positioned to invest in further. However, due to the long lead times, a rapid increase in capacity will be required. In the residential sector, most households are still reliant on oil as the primary fuel source for space and water heating.[28] Facilitating the switch to heat pumps and solar panels in homes at a local level, and further exploring the use of geothermal energy to harness low carbon heating, provides significant opportunities to increase energy security and reduce customer bills.

Recommendations for climate change mitigation

Recommendation 1: DAERA should develop an ambitious second CAP that is published within the statutory timeline and sets interim and long-term targets for soil, biodiversity and air quality that clearly contribute to greenhouse gas reductions.

Recommendation 2: The Executive should establish a strong governance framework to keep delivery on track by establishing the Northern Ireland Climate Commissioner without delay. The Commissioner and Just Transition Commission should be well resourced and supported by robust monitoring and reporting mechanisms.

Table 7.3.4 Climate change mitigation – summary assessment

Past trends	Emissions of greenhouse gases continue to decline. Overall, improving trends dominate across most sectors of the economy. The buildings and product use, and electricity supply sectors show the largest reductions. Emissions from the agriculture and land use sectors show little to no change.	**Improving trends dominate**
Progress in the reporting period	Actions are being taken across key source sectors with some promising plans in place and better than expected emissions reductions in some sectors in recent years. However, the pace and scale of action remains slow in critical areas, such as land use, transport and agriculture. Delivery is also at an early stage in developing engineered removals capacity, which will likely be needed to address residual emissions by 2050. Delays have continued which is limiting ambition and presenting a significant risk to effective delivery.	**Mixed**
Overall prospects of meeting ambitions, targets and outcomes	The prospects of achieving the first carbon budget are largely on track and emissions reductions are ahead of the pathway proposed in the draft CAP. However, delays and lack of action in critical areas means that prospects of achieving net zero by 2050, and the set of carbon budgets and interim 2030 and 2040 targets that set a pathway to it are largely off track.	**Largely off track**
Robustness	There is an advanced monitoring and reporting framework for greenhouse gas emissions. Inventories and projections are generally published annually. However, projections have not been updated since 2024 and are based on the 2021 inventory. Relatively detailed delivery plans are available, as well as advice and progress reports from the Climate Change Committee.	

7.4 Climate change adaptation

7.4.1 Key environmental trends

Adaptation outcomes are generally poorly defined, with few datasets available that directly measure adaptation or climate risk at a national level. To provide a picture of the resilience of the natural environment, we have identified proxy indicators that monitor a range of environmental pressures and outcomes influenced by climate change that are relevant to climate adaptation (see Methodological Statement).[206]

Mean annual temperatures have steadily increased since the end of the 19th century (Figure 7.4.1). Four of the five warmest years on record have occurred in the last decade and incidences of extreme heat are becoming more frequent.[712] In the marine environment, the rate of warming has increased to almost 1°C per decade in recent years.[93]

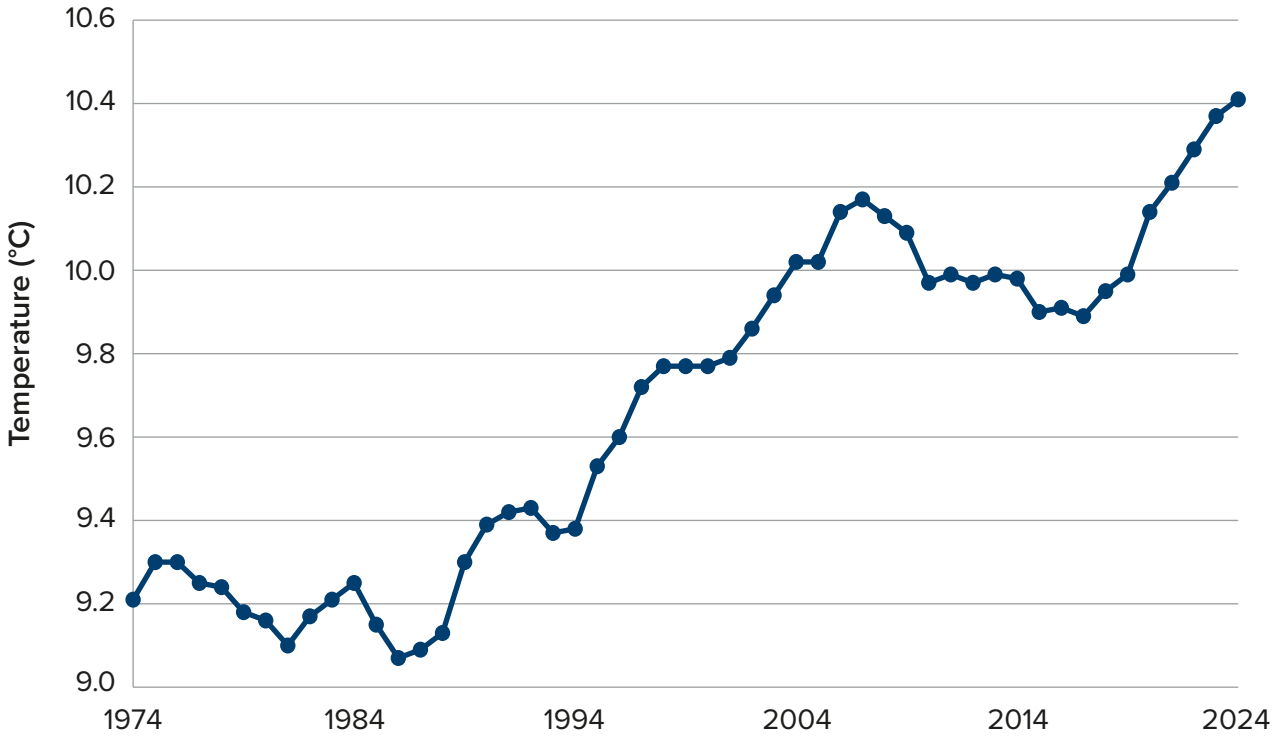


Figure 7.4.1 Mean annual temperature for Northern Ireland (ten-year moving average) (degrees Celsius)[93]

These recent records are consistent with long-term trends driven by climate change, which results in wide ranging impacts including more extreme weather events and rising sea levels.[713] These trends are projected to continue, leading to warmer and wetter winters, drier and hotter summers, sea level rise, and an increase in the frequency and intensity of extreme weather events in the coming decades.[714] These changes will continue to increase the risk to people and the natural environment from compounding hazards such as flooding, drought, wildfires and extreme heat. These impacts are exacerbated by interactions with other pressures including air and water pollution, and land use change.[714]

These trends point to the need for effective adaptation in the natural environment to ensure ecosystems are resilient. Habitat condition, diversity, and connectivity are critical for resilience because healthy ecosystems are better able to adapt to external pressures. They can also act as mitigation and adaptation measures themselves by providing natural carbon stores, and buffers to hazards such as flooding.

Protected site networks are key to enabling these functions. Therefore, the extent and condition of the protected site network can provide an indication of the resilience of the wider natural environment. The extent of the protected site network has shown no change since 2018. While 35.6% of marine waters are designated, exceeding the level needed to meet the 30 by 30 target, just 9.8% of the terrestrial environment is designated.[715]

In terms of condition, there has been little to no change since 2020, with 38% of habitats and 58% of species across all terrestrial, freshwater and marine protected sites in favourable condition.[206] Similarly, the proportion of water bodies at poor and bad ecological status stands at total of 21% and has shown little to no change between 2018 and 2024 (see Chapter 2). At least 85% of features in Northern Ireland MPAs are currently in favourable condition (see Chapter 4), however collective trends across the broader UK marine environment point to a continued decline in habitat condition and biodiversity.[689,101]

Birds are also considered good indicators of the health of the wider environment due to their position in the food web and sensitivity to change. Between 2018 and 2023, an index of wild bird populations, representing 56 species, showed a decline of 13.3%, continuing the long-term trend observed over the last two decades.[206]

Indicators for adaptation and resilience for key sectors such as forestry and agriculture are limited. However, the available trends show a mixed picture. The area of land under agri-environment schemes increased by 28% between 2019 and 2024, although this is from a low baseline following a significant decline over the last decade.[93] The annual rate of new woodland creation has increased by 78.6% over the last five years. The proportion of woodland under sustainable management has also shown little to no change since 2004.[273,272]

Overall, collective trends point to a limited resilience to climate change across the natural environment. Indicators of ecosystem health, and management, show deterioration or little to no change, alongside increasing pressures from climate change hazards, and wider sources such as water and air pollution and land use change.

7.4.2 Progress towards ambitions, targets and outcomes

Two of the eight SEO6 actions reported on in the APR 2026 are directly relevant to climate adaptation and delivery of both were delayed.

The action to complete development of the NICCAP3 was reported as progressing to a new timeline as set out in the Programme for Government 2024-2027. The draft NICCAP3 was consulted on from June to October 2025 and subsequently published in March 2026. However, it was significantly delayed, having been due for the start of the 2024-2029 statutory cycle. The APR 2026 cites competing pressures across several departments as the main challenge causing the delay.

However, the APR 2026 only provides a partial picture. We have identified additional reporting year actions and also draw on actions across other SEOs that are most relevant to climate resilience and adaptation.

Over the reporting period, the end of programme report for the second Northern Ireland Climate Change Adaptation Programme (NICCAP2) (2019-2024) was published.[716] Overall, 79 of 150 actions were assessed by DAERA as having been fully completed. There was clearly some progress made in delivering NICCAP2 actions. However, overall NICCAP2 was not the comprehensive and credible plan required to address climate risks. In 2023, the CCC found that the NICCAP2 omitted critical sectors, some of which are key to achieving objectives of the EIP, such as energy and water supply. There was also no monitoring framework in place to robustly assess the impact of delivery on resilience to climate risks for over 60% of NICCAP2's actions.

In 2023, the CCC reported that climate adaptation is still at an early stage with critical milestones and policies not yet in place.[714] Since then delivery of actions has not been at the pace and scale needed to address these gaps and ensure that Northern Ireland is well adapted to climate change, and 40% of actions within NICCAP2 will require delivery in the NICCAP3 programme period (2024-2029).[716]

Both NICCAP2, and NICCAP3, focus on natural capital, identifying it as a priority area. Delivery of NICCAPs and the EIP are therefore interlinked. The effective use of well-designed NbS are critical to ensuring the natural environment is resilient to climate change risks, while also contributing to achievement of wider environmental targets and commitments and mitigating greenhouse gas emissions. The EIP commits to publishing an NbS plan that aims to enhance ecological and climate resilience. This action is not timebound and the APR 2026 confirms that work has not progressed and a workplan is not yet in place.[11] The APR 2026 indicates a reliance on wider EIP actions to identify areas where an NbS plan would have maximum impact is one of the challenges to plan development.

Despite this delay, there has been some progress over the reporting period regarding NbS. For example, the Northern Ireland Peatland Strategy to 2040 was published in September 2025 (see Chapter 4). This sets ambitions for the conservation, restoration, and appropriate management of peatlands at a scale broadly consistent with CCC recommendations.[87] Similarly, the Blue Carbon Action Plan 2025-2030 was launched in April 2025. While primarily focused on mitigation, it strengthens the context for adaptation in coastal and marine environments.[254] Following the reporting period, the Marine Protected Areas Strategy for the Northern Ireland Inshore Region 2025-2030 and draft Nature Recovery Strategy (see Chapter 4) were published which also consider adaptation.[409,196]

However, while policy has been strengthened, delivery is still at an early stage in many areas. For example, the pace of woodland creation is still critically behind what is needed to achieve the 2030 target.[272] The rate of peatland restoration has increased but long-term trends indicate 2040 targets will not be met (see Chapter 4). As outlined in the APR 2026, it is critical that the forthcoming NbS plan drives increased action and is coherent with existing strategies and programmes. These include the NICCAP3, the first CAP, Northern Ireland Peatland Strategy to 2040, the Farming with Nature Scheme and woodland planting programmes. This will help to ensure that the climate and nature crises are addressed together.

Having a strong national level strategy in place to provide clear direction and coherence is important, but climate adaptation is also context specific. Climate risks are felt at a local level, with local councils at the forefront of the response to climate change impacts and the delivery of adaptation actions. As some essential services are managed at a local level, local councils are uniquely placed to build local resilience. However, to ensure this action is coordinated, the right plans, resources and guidance must be in place.

NICCAP2 set an ambition for all 11 local councils to have a draft adaptation plan in place by 2024. By the end of the reporting period, nine had draft or adopted plans, with the remaining two in development.

Typically, early adoption of adaptation plans has strengthened subsequent delivery of adaptation policy. For example, Derry City & Strabane District Council was the first local council to publish a climate adaptation plan in 2020, setting a strategic context for the development of policies covering flood risk, sustainable drainage systems, green infrastructure, biodiversity net gain, and energy. Most recently the incorporation of climate adaptation was also included in its local development plan in July 2025.[717,718] Historically, local climate adaptation plans have been voluntary. However, the Climate Change (Reporting Bodies) Regulations (Northern Ireland) 2024 came into effect in May 2024, placing mandatory five yearly adaptation reporting duties on 40 public bodies, including local councils. The first submission of reports was required in March 2026.[719]

DAERA indicated that it would support the implementation of these regulations through developing an online reporting portal, publishing guidance, and setting up a public body co-design group.[720] Guidance documentation was published in January 2026.[721] Climate NI, which is part funded by DAERA, also established a dedicated Public Body Reporting information hub.[722]

The CCC previously recommended the need for enhanced provision of support and resource for local councils to complete adaptation plans under NICCAP2.[714] While levels of support have increased, there are still concerns around the availability of resources to effectively meet the requirements for reporting, as well as broader adaptation implementation. Effective support for developing and delivering local adaptation plans is vital if local policies and actions are to be coherent with national level plans.

In terms of action taken to address specific climate risks and specific sectors, the Wildfires in Northern Ireland Strategic Framework 2025-2030 was launched in October 2025.[333] The Strategic Framework outlines practical measures and future activities for partners to consider. Since the reporting period a subsequent action plan has been published (see Chapter 4).[355]

On flooding, some progress has been made to reduce flood risk, including the introduction in the Assembly of the Water, Sustainable Drainage, and Flood Management Bill (Northern Ireland) 2025 in June 2025, although the Bill is still progressing through the scrutiny stages and has not yet received Royal Assent. The Single Residential Sustainable Drainage Systems pilot was also launched during the reporting period to streamline planning proposals that include sustainable drainage systems.

In addition, £15 million was provided through the public-sector transformation fund to develop and deliver projects that will use NbS to develop sustainable drainage systems to reduce the pressure on drainage and wastewater infrastructure.[723,125] However, multiple major projects under The Living With Water in Belfast Plan were deferred due to a lack of funding.[724,119] Amongst other goals, the Living With Water in Belfast Plan aims to deliver a long-term approach to drainage and wastewater management to protect from flooding. The scale of these actions does not address the current and projected level of risk, with previous estimates showing that 45,000 homes (1 in 20) are at risk of flooding.[725]

In the agriculture sector, there has been a promising roll out of schemes under the SAP, which presents opportunities for progress on climate mitigation, and co-benefits for adaptation. However this potential is unlikely to be fully realised under current plans.[166] NICCAP3 references schemes under the SAP, however it does not provide sufficient clarity on how they will be used to deliver adaptation actions.[81] The Farming with Nature Transition Scheme includes actions to support biodiversity recovery, habitat restoration and water quality, which could build ecosystem resilience and adaptive capacity. However, unlike the mitigation focused schemes in the SAP, implementation remains limited and current climate risks are not adequately addressed (see Chapter 5).

While there has been some action taken over the reporting period to develop national level strategies and deliver targeted actions at sector level, many key strategies and programmes are still at an early stage of development. Overall progress has been limited as current actions lack the necessary scale and urgency to ensure the resilience of the natural environment.

7.4.3 Prospects of meeting ambitions, targets and outcomes

The EIP vision for adaptation is an environment, society and economy which are resilient and adapted to the current and predicted impacts of climate change. However, the current rate of progress means the prospects of achieving this are largely off track. Projections also suggest climate change and its impacts will continue to worsen, with risks likely to compound – interacting with each other and with wider pressures on the natural environment. It is therefore likely that the gap between risk and resilience will continue to widen.

There is a robust statutory framework in place to drive evidence-based climate adaptation. This includes a statutory cycle for the evidence base and overarching strategy at a national level, which includes key enablers such as a strong governance framework and reporting and planning requirements for delivery partners. However, the potential of this foundation is being undermined by slow and inconsistent delivery. Finalisation of NICCAP3 was slow. This delay meant there was a lack of clear strategic direction for delivery partners, with an outdated NICCAP2 left in place two years into the following statutory cycle. The delay has also minimised the time available for effective delivery of NICCAP3 actions.

Despite the delay to its publication, NICCAP3 represents an improvement on its predecessor.[670] It is substantially broader than NICCAP2, setting out around 280 actions across multiple economic sectors and environmental domains, including those omitted in NICCAP2. However, significant gaps remain.

For example, while actions demonstrate alignment with Climate Change Risk Assessment 3 risks, there is still not enough clarity on timelines and accountability mechanisms, and it is not yet clear how actions will stack up to meet the overarching vision of a well-adapted Northern Ireland. One significant limitation of NICCAP2 was the lack of data for robust monitoring of adaptation outcomes. DAERA have suggested that a set of indicators is being developed to support monitoring for NICCAP3 outcomes. However, they are not publicly available so it is unclear how far development has progressed.

Overall, NICCAP3 does not provide the sufficient increase in ambition or funding required to address the gap between adaptation and level of climate risks. The plan primarily signposts to relevant programmes across departments. It also does not address key barriers such as the fact that current funding mechanisms tend to be fragmented across siloed areas.

Adaptation is vital for all sectors of the economy, and there is growing evidence of greater consideration of adaptation within wider policies. For example, the Marine Protected Areas Strategy for the Northern Ireland Inshore Region 2025 – 2030 aims to ensure MPA networks are adaptable to climate change. It further expands on definitions of what climate adaptation and resilience means in an effective MPA network.[409] Similarly the draft Nature Recovery Strategy sets a vision for 2050 that the natural environment is 'resilient, and adapting to climate change as well as contributing to climate change mitigation'.[196] However as noted in our response to the consultation, the draft is largely focused on developing new strategies and plans, and carrying out reviews, without actions for their implementation.[2]

However, adaptation remains a stronger consideration in policy areas DAERA are responsible for, compared to other NI Executive Departments. Previous CCC assessments found that this differing awareness between departmental bodies of how adaptation relates to policy areas is likely to impede adaptation considerations within departmental strategies or plans.[714]

To improve the prospects of delivering effective adaptation action, programmes such as NICCAP3 must be considered an Executive strategy. Alongside mitigation efforts, adaptation needs to be more meaningfully integrated into cross-department policies from design through to delivery. The pace and scale of delivery across NI Executive Departments will also need to increase to improve prospects. Delivery of many programmes to improve resilience at sectoral level have been delayed or remain at an early stage of development, with many NICCAP2 actions pushed into the following programme period as a result.

7.4.4 Opportunities for improvement

There are clear opportunities to improve delivery of climate adaptation actions. The most significant are the implementation of NICCAP3, improving adaptation monitoring and evaluation frameworks, the development and subsequent delivery of the NbS plan, and embedding adaptation within nature friendly farming schemes.

As the overarching strategy, NICCAP3 should play a key role in setting clear direction and coordinating and driving action across NI Executive Departments. While we welcome the publication of NICCAP3 and the improvements made relative to its predecessor, the programme could be strengthened. The absence of specific, measurable, achievable, relevant, and timebound targets for outcomes and the most significant actions remain a limitation of the programme.

Without specific targets for adaptation, it will not be possible to effectively monitor progress, and to adapt plans if they are off track. Accountability and transparency are key to effective delivery. DAERA should consider including the NICCAP3 monitoring indicators in publications such as the EIP Outcome Indicator Framework or the Northern Ireland Environmental Statistics Report. This would also provide further insight of progress towards wider targets and commitments. The statutory mid-programme review for NICCAP3 will present an opportunity to deliver improvements that address these shortfalls and strengthen the programme.

NbS are critical to improve the resilience of the natural environment and key sectors such as agriculture. The proposed NbS plan provides an opportunity to ensure coherence and increased ambition in areas such tree planting and peatland restoration. While recent strategies such as the Peatland Strategy, and draft Nature Recovery Strategy provide some adaptation context, the NbS plan can put adaptation at the centre of NbS planning and clearly align existing programmes. This would ensure that co-benefits and trade-offs for nature, mitigation, and adaptation are identified and addressed.

The timeline for publication of the NbS plan is unclear, as is its scope. However, as work develops in this area it is important to ensure that this emerging policy adds value, rather than simply signposting pre-existing plans. The NbS plan can enhance ambition and galvanise action, for example, through the expansion of funding opportunities, integration with pre-existing schemes such as agri-environment schemes, and providing detailed delivery pathways for place-based interventions.

At a sector level, agriculture is one of the most vulnerable to climate change. The UK government's recent nature security assessment concluded that without significant increases in UK food system resilience, it is unlikely the UK would be able to maintain food security in light of global ecosystem degradation.[726] This highlights the critical importance of adaptation planning in the agriculture sector. Programmes such as the SAP will offer some adaptation benefits, however they are currently poorly defined. With multiple key policies in

the programme at an early stage of delivery, there is an opportunity to consider adaptation at the design stage, to ensure it is meaningfully integrated. The expansion of agricultural support schemes to include explicit adaptation provisions would more effectively enhance food system and nature resilience, whilst emphasising co-benefits.

Effective climate adaptation is inherently cross cutting, requiring coordinated action across NI Executive Departments, the private sector, and voluntary and community organisations. The APR 2026 reiterates that one of DAERA's climate goals is to embed climate adaptation across all sectors.[11] Strong governance and reporting requirements, alongside clear ownership of risks and actions, are key to enabling this. The NICCAP3 plays a pivotal role in this, and the CCA NI requirements to establish a Just Transition Commissioner and Northern Ireland Climate Commissioner present clear opportunities to strengthen coordination and speed up action across NI Executive Departments.

Northern Ireland's size and institutional connectivity also mean that collaboration between government departments and key stakeholders and delivery partners can be achieved with a degree of agility that is not possible in larger jurisdictions. Bodies such as Climate NI exemplify this kind of cross-sectoral structure, acting as a link between local and national government, academia, and practitioners, and leveraging these networks to support the development of adaptation policy, tools, and resources.[727] Cross-sectoral networks such as this present an opportunity to develop a model of an integrated, whole of society approach to adaptation.

Recommendations for climate change adaptation

Recommendation 1: DAERA should develop an ambitious nature based solutions plan that provides coherence across programmes and demonstrates how adaptation goals will be delivered alongside wider targets and commitments.

Recommendation 2: DAERA should use the mid-programme review to strengthen the third Northern Ireland Climate Change Adaptation Programme by setting clear outcomes, timelines and prioritisation of key actions, and publishing a set of monitoring indicators to track progress.

Table 7.4.1 Climate change adaptation – summary assessment

Past trends	Adaptation is difficult to measure directly. Relevant indicators show mixed trends, generally deterioration or little to no change over time. Overall, collective trends point to a limited resilience to climate change in the natural environment.	**Mixed**
Progress in the reporting period	While actions which will have an adaptation benefit are being delivered, this in unequal across sectors. There is evidence of growing consideration of adaptation across policies and programmes, however this is broadly limited to high level visions and there is a lack of effective delivery. Key gaps and delays in implementation remain and action is not at the scale and pace needed to increase resilience.	**Limited**
Overall prospects of meeting ambitions, targets and outcomes	Despite having a strong statutory framework, delivery is generally limited and often delayed. The third Northern Ireland Climate Change Adaptation Programme has now been published and is stronger than its predecessor. However, it was significantly delayed, it does not clearly set out how plans stack up to achieve outcomes and does not reflect the increase in ambition that is required. Overall, climate risks are projected to increase, and current plans and delivery are highly unlikely to keep pace.	**Largely off track**
Robustness	Adaptation is difficult to measure, and characterised by a lack of clear, measurable outcomes. Monitoring and reporting on adaptation is generally limited as a result. This assessment is based on proxy measures of resilience identified through systematic mapping to climate risks, Climate Change Committee assessments, stakeholder engagement, and expert judgment.	

7.5 Conclusions

There is a strong statutory framework for addressing the causes of climate change and adapting to its impacts. There are also highly ambitious statutory targets in place for mitigation, however this is not the case for adaptation, which lacks clearly defined outcomes.

There has been better than expected progress in reducing emissions in recent years, presenting an opportunity to make further headway. However, the current overall pace and scale of delivery is not sufficient to meet long-term targets and outcomes for mitigation or adaptation. Many policies and programmes that underpin delivery plans are still at an early stage of development, and continued delays have resulted in key strategic plans being left in draft form for prolonged periods, including the first CAP and NICCAP3.

These delays are severely limiting the translation of the robust statutory foundation into progress on the ground. This unrealised potential is limiting the prospects of meeting targets and outcomes. There are opportunities to improve prospects, however they demand not only much greater urgency, but the development of new technologies and infrastructure, and much more meaningful consideration of adaptation in policy design across NI Executive Departments.

Comprehensive delivery plans must be put in place along with clear ownership, prioritisation and accountability if targets and outcomes are to be achieved. Strong governance frameworks, such as those to be established under the CCA NI will be critical to keeping delivery on track. A consistent and meaningful application of the just transition principle across departmental decision making will also be vital to ensure the Executive has the support it needs to go further, faster, and to sustain political will.

The APR 2026 acknowledges challenges and delays and indicates that the focus will now be on speeding up implementation. It also acknowledges that enhanced resourcing and strengthened governance are essential to delivering a nature-positive, climate-resilient Northern Ireland by 2030. However, the APR 2026 also states that a change in approach is not considered necessary. Looking ahead, many of the necessary levers are already in place, but they need to be used more effectively and expediently. A revised approach may be required to tackle the barriers we have identified and improve prospects.

III. Taking stock

Chapter 8: Taking stock

8.1 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 outcomes. These are brought together here to provide the overall picture structured by the SEOs and themes of the EIP.

The EIP is defined in the Environment Act 2021 as a plan for significantly improving the natural environment. It aims to deliver real improvements in the quality of the environment, people's health and wellbeing and create opportunities to develop the economy.

Viewed against the overall aim of significantly improving the natural environment, our summary assessment is that while some progress has been made, substantial challenges remain and the prospects of achieving EIP ambitions, targets and outcomes are largely off track (Figure 8.1). However, prospects are not fixed and there are clear opportunites to deliver improvements.

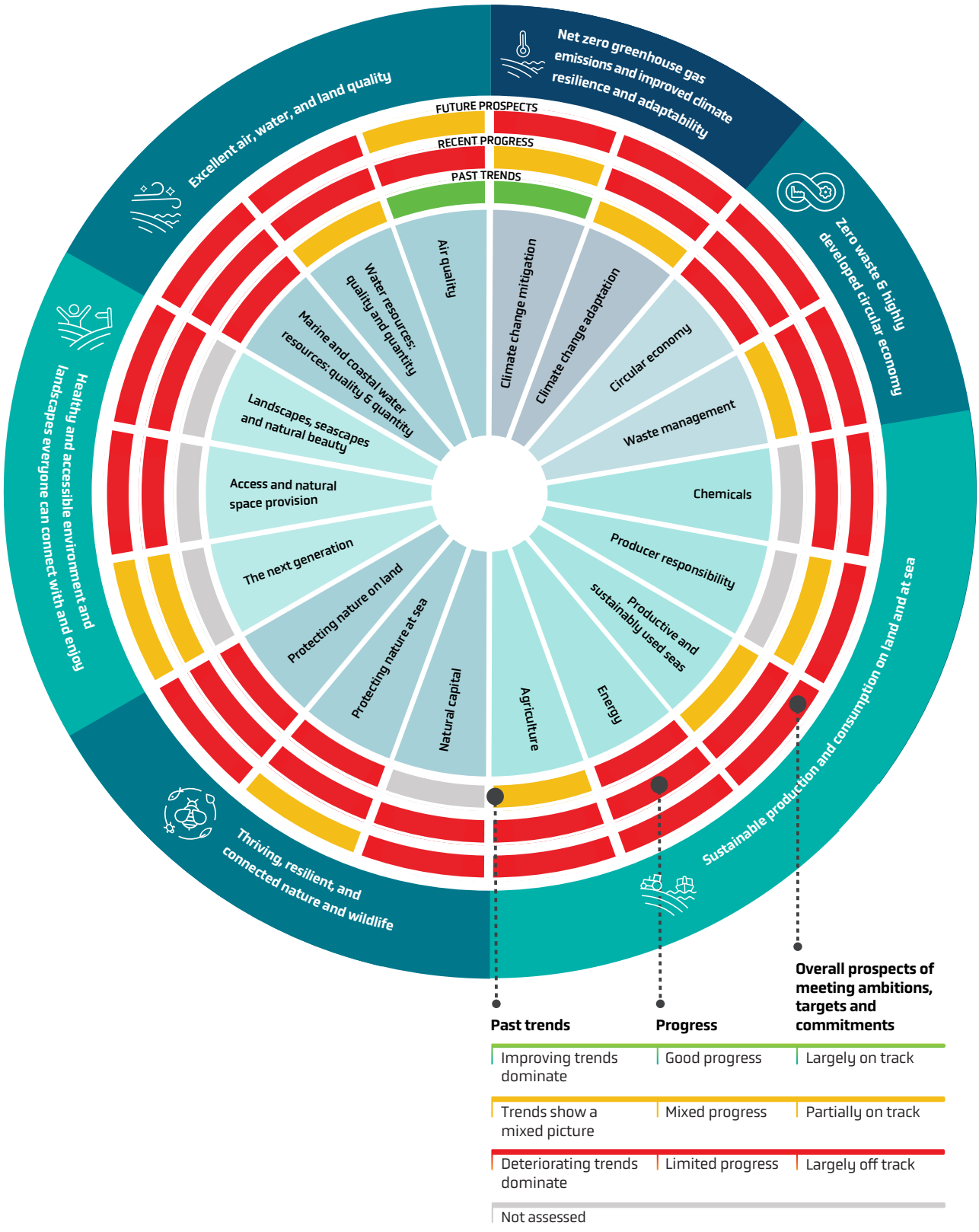


Figure 8.1 The Office for Environmental Protection summary assessment of past trends, progress for the year 2024/2025 and overall prospects of meeting ambitions, targets and outcomes across six strategic environmental outcomes and 18 themes of the Environmental Improvement Plan

Environmental trends

Our assessment of 48 recent trends shows that 12 are improving, 12 are static, 7 are deteriorating and 17 were not assessed due to data availability (Figure 8.2).

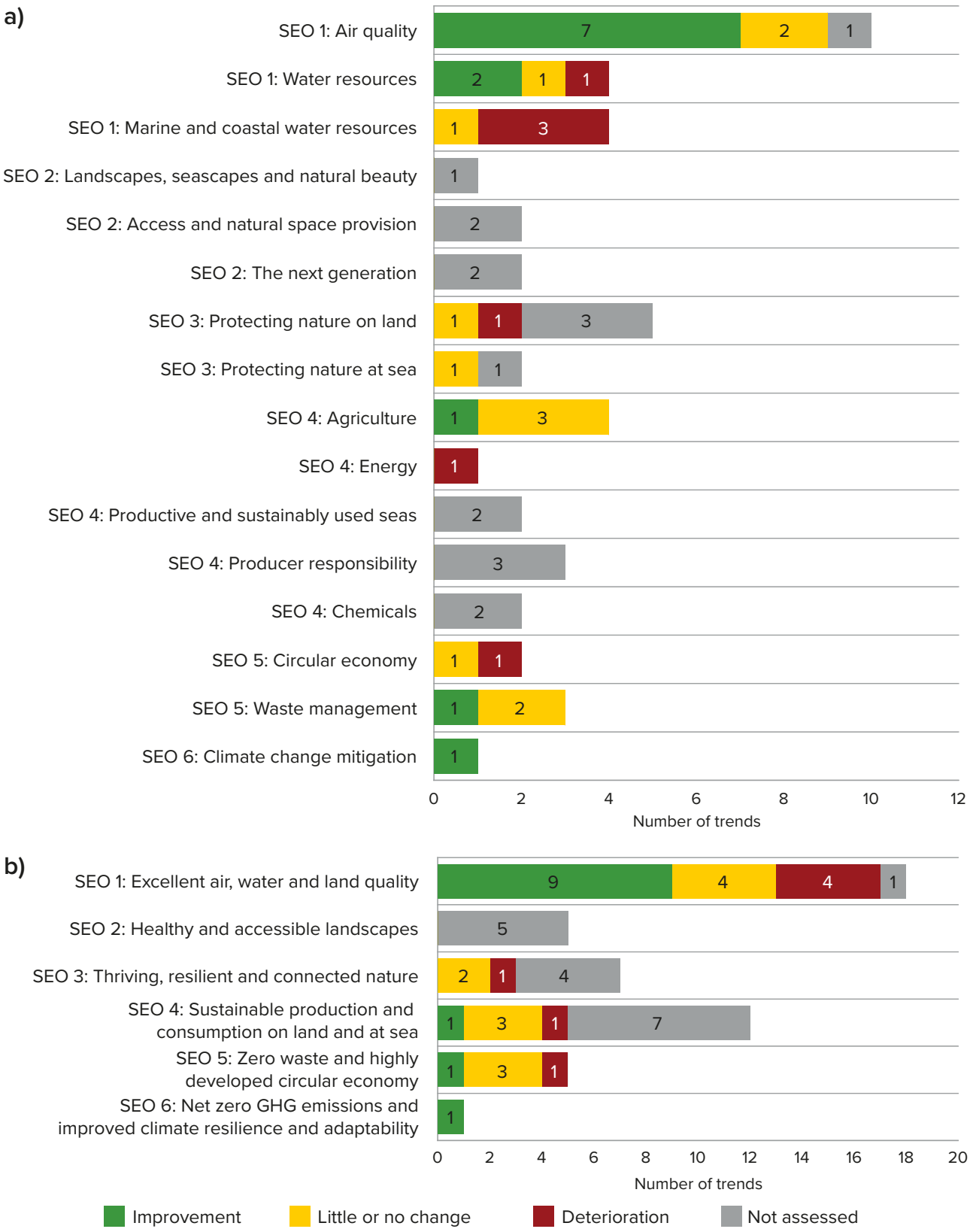


Figure 8.2 Summary of the OEP's assessment of 48 trends in (a) 16 themes and (b) six strategic environmental outcomes of the EIP. Green indicates improvement, amber is little or no change, red is deterioration and grey is not assessed

In relation to the natural environment, one in 12 species are at risk of extinction while other species and habitats are in decline. The marine environment is not in good environmental status. Pressures on biodiversity persist, such as invasive species (see Chapter 4) and the impacts of climate change are putting increasing pressure on vulnerable marine ecosystems (see Chapter 5). Pollution in the form of damaging levels of nitrogen deposition on sensitive habitats has reduced, however, levels of marine litter remain too high (see Chapter 2).

The overall state of the water environment remains concerning. Nutrient inputs remain at levels that pose a risk in freshwater, transitional and coastal waters. While the number of pollution incidents in water has decreased over the long-term, it has increased in recent years (see Chapter 2).

Regarding human health and wellbeing, ambient air quality has improved and air quality standards and targets are being achieved. Compliance with drinking water quality standards is high and the condition of bathing waters is generally good (see Chapter 2). However there is little evidence that exposure to harmful chemicals is reducing (see Chapter 5).

In terms of engagement with the natural environment, the number of people who visit the outdoors weekly remains relatively high but there has been little change in access to green spaces. In recent years levels of pro-environmental behaviours amongst adults mostly show a decrease. However, surveys indicate that concern about environmental issues is widespread amongst young people (see Chapter 3).

In relation to a circular and low carbon economy, the circular material use rate is 10%, just below the EU-27 average. In the short-term, the material footprint has increased and there has been little change in the carbon footprint. Household waste generation has remained stable and household recycling rates have stagnated (see Chapter 6).

When it comes to reducing overall levels of pollution, improving trends continue in reductions in emissions of specific air pollutants (see Chapter 2) and greenhouse gases (see Chapter 7). While overall energy consumption has decreased in recent years so has the share of electricity consumption from renewable sources located in Northern Ireland (see Chapter 5).

Regarding the environmental impact of sectors, unsustainable agricultural practices are still leading to pollution and biodiversity loss, and the overall exploitation of fish stocks is still beyond the limit for sustainability (see Chapter 5).

The assessment of individual trends forms part of our overall assessment of trends at the level of EIP themes. We conclude that improving trends dominate in two (air quality and climate change mitigation), deteriorating trends dominate in five (marine and coastal resources: quality and quantity, protecting nature on land, protecting nature at sea, energy and circular economy), trends are mixed in five (water resources: quality and quantity, future agricultural policy, productive and sustainably used seas, waste management and climate change adaptation) and for six, trends could not be assessed due to data availability (landscapes, seascapes and natural beauty, access and natural space provision, the next generation, natural capital, producer responsibility and chemicals).

Progress during the annual reporting period

We assessed progress during the annual reporting period towards meeting 38 individual targets and outcomes, as well as overall progress at the level of EIP themes.

Our assessment of individual targets and outcomes is that good progress has been made towards two, mixed progress towards six, limited progress towards 27 and three could not be assessed (Figure 8.3).

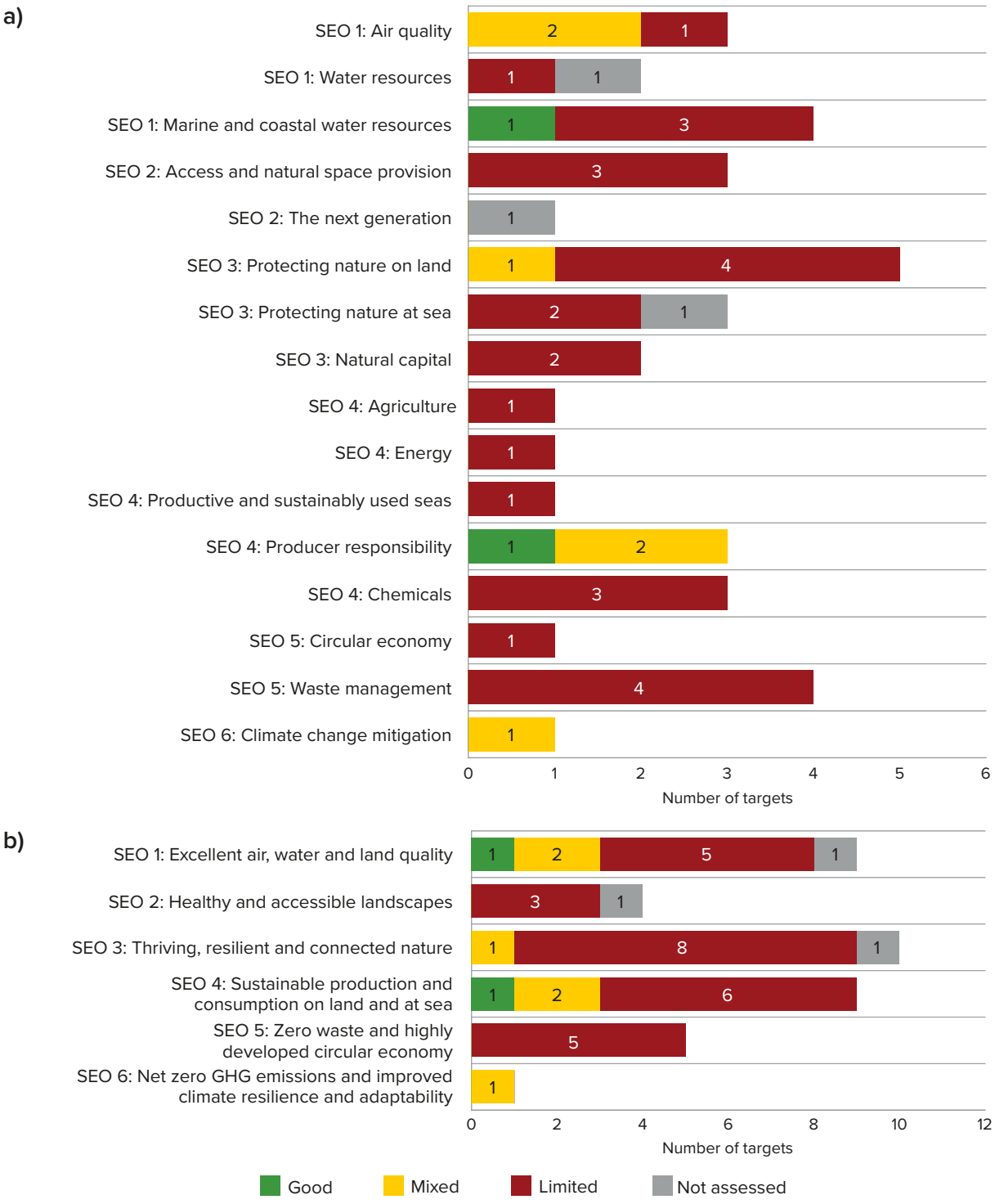


Figure 8.3 Summary of the OEP's assessment of progress over the annual reporting period towards 38 environmental targets and outcomes in (a) 16 themes and (b) six strategic environmental outcomes of the EIP. Green indicates good progress, amber is mixed progress, red is limited progress and grey is not assessed

In relation to the natural environment, overall progress towards achieving thriving, resilient and connected nature and wildlife was limited. While progress was mixed on the conservation or restoration of semi-natural peatlands, it was limited on woodland creation. Progress was limited on the wider actions and policies essential to nature's recovery including in freshwater and marine environments (see Chapters 2 and 4). There was also limited progress in developing a natural capital and ecosystem assessment approach and integrating natural capital and biodiversity values into decision making.

Regarding human health and wellbeing, there was mixed progress regarding air pollutants. There was good progress regarding bathing water status, however there was limited progress in protecting bathing waters from storm sewage discharges and the impact of agriculture (see Chapter 2). There has been limited progress on reducing exposure to chemicals in the environment (see Chapter 5).

In terms of engagement with the natural environment, there has been limited progress in improving access and natural space provision. A lack of data means that progress regarding increasing the amount of time spent outdoors cannot be fully assessed as no information is available for children (see Chapter 3).

In relation to a circular and low carbon economy, there has been mixed progress towards carbon budgets and net zero greenhouse gas emissions (see Chapter 7). There was limited progress in changing patterns of production and consumption, reducing the material footprint and improving recycling rates (see Chapters 5 and 6). There was also limited progress towards increasing the share of renewable energy in electricity consumption. There has been mixed progress on producer responsibility targets, however, progress towards recovering costs from producers for managing packaging waste has been good (see Chapter 5).

The assessment of individual targets and commitments forms part of our wider assessment of progress at the level of EIP themes. We conclude that progress was mixed in three themes (the next generation, producer responsibility and climate change mitigation) and limited in 15 themes.

Prospects

Informed by our assessment of past trends and recent progress, we assessed the prospects of meeting 38 individual targets and commitments, as well as overall prospects at the level of EIP themes.

Our assessment of individual targets and outcomes is that prospects are largely on track towards meeting three, partially on track towards meeting six and largely off track towards meeting 26, while the prospects of meeting three could not be assessed due to a lack of sufficient evidence (Figure 8.4).

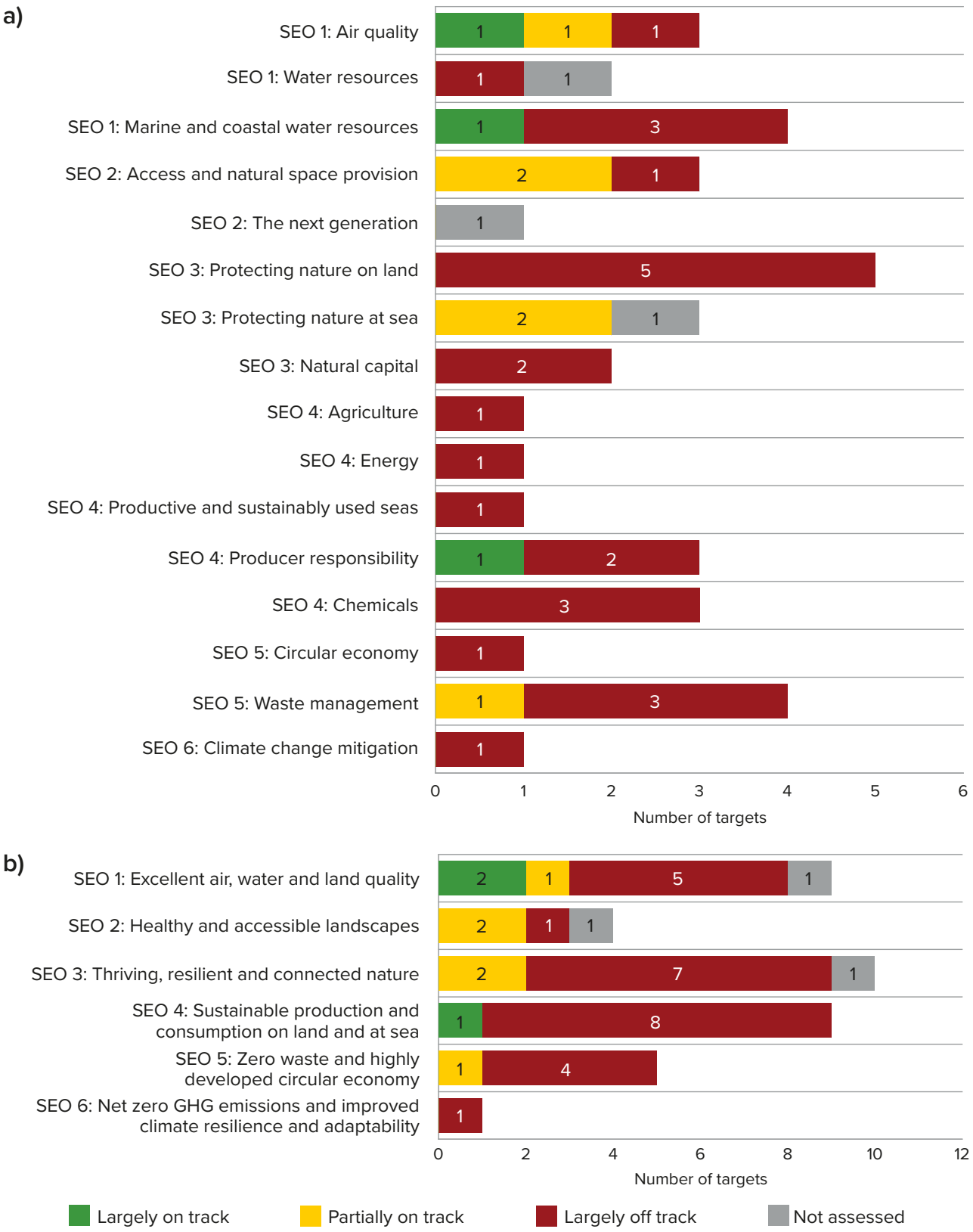


Figure 8.4 Summary of the OEP's assessment of prospects of meeting 38 environmental targets and outcomes in (a) 16 themes and (b) six strategic environmental outcomes of the EIP. Green indicates largely on track, amber is partially on track, red is largely off track and grey is not assessed

Areas where prospects are largely on track relate to emissions of specific air pollutants (but not ammonia), the condition of bathing waters (see Chapter 2) and recovering costs from producers for managing packaging waste (see Chapter 5).

In relation to the natural environment, the overall prospects of achieving thriving, resilient and connected nature and wildlife are largely off track (see Chapter 4). The prospects of achieving good ecological status of waters are also largely off track along with the achievement of good environmental status in marine waters (see Chapter 2).

Regarding human health and wellbeing, while the prospects of achieving emission reduction commitments are partially on track, the prospects of achieving air quality standards are largely on track. The prospects of achieving targets for bathing water condition are also largely on track, however, the prospects of ensuring their future protection from storm sewage discharges and the impact of agriculture are not (see Chapter 2).

In terms of engagement with the natural environment, the prospects of achieving targets and outcomes to improve access and natural space provision are partially on track. Although progress regarding the increasing the amount of time spent outdoors is largely off track (see Chapter 3).

In relation to a circular and low carbon economy, while the prospects of achieving the first carbon budget is on track, achieving net zero by 2050, and the carbon budgets and interim 2030 and 2040 targets that set a pathway to it are largely off track (see Chapter 7).

The prospects of meeting targets and outcomes relating to patterns of production and consumption, reducing the material footprint and improving recycling rates and achieving environmentally sustainable agriculture and fisheries are all largely off track (see Chapters 5 and 6).

The assessment of individual targets and outcomes forms part of our wider assessment of prospects at the level of EIP themes. We conclude that overall prospects are partially on track for three themes (air quality, the next generation and protecting nature at sea) and largely off track for 15 themes.

In addition, the lack of progress regarding climate adaptation means action is not keeping pace with increasing risk levels hindering the prospects of meeting targets and outcomes across many other areas (see Chapter 7).

Conclusions

Looking across trends, progress and prospects, few measurable improvements can be observed and there is a lack of urgency with which positive actions are being implemented. Progress and prospects are impeded by a range of factors including:

Key policies and strategies are delayed. For example, the Ammonia Strategy, the Nutrients Action Programme, the Marine Plan for Northern Ireland, the Circular Economy Strategy and the Green Growth Strategy. This creates uncertainty and results in missed opportunities. It also means that plans do not keep pace with the increasing scale of challenges and the time available to achieve targets and outcomes reduces.

Actions in the EIP are not addressing all major pressures. For example, improving the water environment requires investment in wastewater infrastructure and reducing agricultural pollution to reduce excess nutrients as well as addressing other pressures such as hydromorphological alterations and chemical pollutants.

Resources are not given as needed, even when the actions required to achieve EIP targets and outcomes are well understood. Resource constraints were the most common reason given for challenges and delays in the APR 2026. This affects policy development, for example, the Clean Air Strategy and Landscape Strategy. It prevents the implementation of actions at the scale and pace that is needed, for example, to restore peatlands, improve the condition of protected sites and roll out the Farming with Nature package.

There is an absence of credible action or delivery plans. For example, action plans to reduce the pressures impacting nature such as invasive species and plans for delivering the renewable energy target.

Across our report we identify opportunities for improvement. In many cases, effective responses exist and their implementation is feasible if supported sufficiently. However, the current scale and pace of action is falling short of what is needed to achieve EIP targets and outcomes.

Finally, our assessment of trends, progress and prospects is hampered by gaps in the evidence base. This includes gaps in monitoring systems and timeliness of data. Many EIP actions lack clear metrics or baseline data are not available to enable assessment of progress or the effectiveness of interventions.

8.2 Setting ambitions and outcomes

The EIP sets out the Executive's collective ambition for improving the natural environment. It states that it will form the basis for a coherent and effective set of interventions.

The EIP explains why protecting and improving the environment matters. Each of the 22 themes details future vision and outcome statements and a range of actions and targets. However, it does not clearly distinguish between actions and targets. In the APR 2026, all the EIP actions and targets are presented as actions so exactly what is considered a target is even less clear.

Stating the intended outcomes for each theme is helpful but the relationship to the actions and targets is not always clear. This makes it difficult to identify exactly which actions and targets are intended to lead to which outcomes and how. In addition, there are outcomes which do not always have associated actions or targets. The degree to which this occurs differs across themes. For example, in climate change the relationships are reasonably clear. There are targets and actions to achieve them linked to an outcome. However, for air quality, an outcome is increased public awareness of the health effects of poor air quality and sources of pollution yet there are no actions or targets related to this.

In the EIP there is also little consideration of how multiple actions and targets will work together or any attempt to explain their relative importance. However, the APR 2026 does provide more detail than the EIP and greater explanation of the overall approach and links across themes.

A further issue is a lack of clear definitions. Specific, measurable, achievable, relevant and time-bound (SMART) targets are important for operationalising goals and driving their achievement. They guide policy design and implementation and signal policy direction. Most targets in the EIP are not SMART and often described as if they were actions or future vision or outcome statements. For example, SEO1 contains an action or target to achieve the sustainable management and efficient use of natural resources including water and soils

by 2031. However, neither the EIP or the APR 2026 define what is meant by sustainable management or efficient use. This prevents the development of indicators or other metrics and makes it challenging to set a benchmark against which progress can be assessed.

Targets can also operate as a comprehensive and coherent set. A good example is for mitigating climate change, where net zero provides an ambitious long-term target for 2050 which is supported by carbon budgets and interim targets. Interim targets are important for defining pathways and setting out the direction, scale and pace of action. In the EIP there are long-term targets for 2050 that do not have any interim targets. For example, SEO5 contains a target to reduce the annual material footprint to 8 tonnes per person by 2050 but does not set out any interim targets to define a pathway to achieve this.

The EIP sets out its strategic context as a high-level Executive endorsed plan that sits alongside other strategies such as the draft Green Growth Strategy, the draft Circular Economy Strategy, the future Agricultural Policy Framework, the draft Nature Recovery Strategy and the draft Climate Action Plan. Coherence with these other strategies is vital to ensure synergies amongst interventions and delivery plans.

Currently, the EIP highlights ambitions it has in common with some of these other strategies but does not offer any further detail of how their timelines, interventions, and delivery will be aligned. Also, it does not address the question of coherence with other key strategies outside of the environmental policy domain, which is important for identifying and mitigating potential trade-offs or competing priorities.

Having an EIP in place is a statutory obligation under the Environment Act 2021. It is not just a formality but a vital first step in setting out the interventions to significantly improve the natural environment. As attention turns to delivery of these interventions, there is a risk that the lack of detail on causal pathways from targets to actions to outcomes could hold back progress.

8.3 Meeting ambitions and achieving outcomes

For the EIP to be effective it needs to prioritise action where it is needed most, have clear underpinning delivery plans, and make use of governance arrangements that coordinate resources and drive implementation.

Various drivers and pressures on the environment are mentioned throughout the EIP but their relative importance, and what this means for the prioritisation, resourcing and implementation of actions is not really addressed. Some strategies, such as the draft Circular Economy and draft Ammonia Strategy have associated evidence publications informing their approach to delivery but this is not the case for all. The EIP does not attempt to bring the available evidence base together to give an SEO or theme level picture of the priorities for action and what the most effective interventions are.

The EIP describes itself as a high-level plan with greater detail provided during the development and implementation of associated strategies, action plans and programmes. This means that overall EIP progress may become slow and disjointed, particularly where the various strategies, actions plans and programs are delayed or developed in silos.

In the EIP there are commitments to publish a strategy or plan in all SEOs and the APR 2026 reported that many of these are delayed and progressing to a new timeline. This means that delivery plans are not in place for many of the associated strategies and programmes

that underpin the EIP. What we mean by a delivery plan is a clear pathway showing how individual policies and actions come together, an assessment of their relative importance and their combined impact towards achieving defined outcomes. This helps to build credibility and accountability by demonstrating that policies and actions are adequate. It supports effective implementation by directing focus towards the elements of the plan that matter most and are expected to deliver the most sizable contribution towards achieving outcomes.

The EIP notes that its success depends on coordination across borders and partnership work amongst NI Executive Departments, local councils and other stakeholders. However, it does not provide any specific details on governance or how the EIP will play a coordinating role. Similarly, throughout the SEOs and themes, there is limited information about who is responsible for what and how their delivery roles will be resourced and supported.

Meeting the ambitions of the EIP requires all NI Executive Departments to fully consider the environmental effects of their policies and to make decisions that address any relevant trade-offs. The EPPS can complement and help drive the delivery of actions needed to achieve the EIP. The forthcoming legal duty to have due regard to the EPPS when making policy should enhance the way in which the environment is considered throughout the policy process and enable greater scrutiny of relevant decisions.

8.4 Assessing progress

Timely and informative progress reporting is essential for keeping delivery of the EIP on track. This was recognised in the Programme for Government 2024-2027 commitment to establish robust accountability mechanisms to allow monitoring and reporting of progress on the EIP.[12]

DAERA published their first APR in January 2026 in line with the statutory timetable set out in the Environment Act 2021. We engaged with DAERA to discuss the development of the APR and the supporting Outcome Indicator Framework. We outlined our attributes of an informative APR and emphasised how they would enable more effective assessment of progress by both DAERA and the OEP.

We stated that the APR 2026 was a significant and welcome contribution to scrutiny and accountability as it sets out what the Executive has been doing for the environment and is candid about delays and future plans.

The APR 2026 is a promising start. However, APR development should be seen as a process, with APRs improving over the timeframe of the EIP. For each theme, the APR 2026 details links to other strategic drivers and themes providing useful context for the description of progress. However, key interdependencies are not fully elaborated to explain how they have supported or hindered progress with specific actions. This is particularly relevant for themes that have actions and targets that have shared responsibility for delivery, such as outdoor recreation and climate change.

The APR 2026 also provides details of the future steps that will be taken. This signals prioritisation of upcoming delivery efforts. However, it could be clearer how future actions are intended to tackle challenges and delays. For instance, where a target is moved to a new timeline, any changes to the scale and pace of its associated actions also needs

explaining. This would help inform the assessment of the prospects of meeting targets and outcomes.

While the APR 2026 provides a relatively comprehensive picture of what actions have been taken and their status, it does not really provide an assessment of the contribution of actions or the gap between the current situation and targets and outcomes.

An APR is also only one element of a monitoring, evaluation and learning framework. While there are monitoring and evaluation activities happening for specific actions, these will remain as isolated opportunities for insight and learning if they are not part of a larger framework. To design such a framework, many of the limitations mentioned above need to be addressed. There is a need for measurable targets and outcomes that are clearly linked to indicators of progress and specific actions as set out in action or delivery plans. With this in place, the real value of monitoring data and policy evaluations can be used to ensure that actions are being prioritised and implemented in a way that will deliver EIP ambitions, targets and outcomes.

8.5 Key recommendations

Our key recommendations address priority areas for action and the main barriers and opportunities. They aim to ensure successful delivery of the EIP and significant improvement of the natural environment. These are not actions that are completed in one year so we will monitor progress with these recommendations over the timeframe of the EIP. In the preceding chapters we also make a series of more specific recommendations to drive improvements in each EIP theme.

There are three priority areas for action that can contribute to improving outcomes across SEOs. Greater scale and pace of action is needed in each to secure significant environmental improvement.

Key recommendation 1: Effectively address nutrient pollution. Pollution by nutrients from agriculture and wastewater is a longstanding, severe and chronic problem that affects the economy, society and environment. It will not be possible to achieve EIP targets and outcomes for air, water and land quality or for nature's recovery and climate change without effectively addressing nutrient pollution.

A range of measures to do so are in place with others forthcoming. However, an assessment of how these are intended to come together to deliver overall objectives for nutrient pollution is still lacking. This is essential to understand how far current measures will go to achieving outcomes, where additional reductions will be required in the future and what those responsible for contributing to the problem and the solution will need to do.

Key recommendation 2: Speed up action on the circular economy. This is essential to address the underlying drivers of environmental degradation and nature loss. These are strongly linked to overall levels of resource use and how the economy and society uses materials and energy. The transition to a circular economy will also support the development of a more resilient and inclusive economy now and for future generations.

In developing a circular economy, actions should consider the Environmental Principles Policy Statement. Their systematic application can contribute to reducing environmental pressures from economic activities and embed safe and sustainable by design into

chemical and product lifecycles. The polluter pays principle can ensure that the cost of cleaning up pollution and waste is not borne by the public.

Key recommendation 3: Ensure nature's recovery. A focus on restoration and nature positive use of land and sea is essential for delivering EIP targets and outcomes. The draft Nature Recovery Strategy, Peatland Strategy, Farming with Nature scheme and prioritisation of nature-based solutions as required through the Climate Change Act (Northern Ireland) 2022 provide the basis for action.

Investing in nature's recovery is a strategic investment that will lead to long-term benefits for society and the economy. A recent estimate of the cost of restoring degraded ecosystems in Europe also found that the benefits of restoring these ecosystems were ten times greater than the costs. The benefits arose from avoided disaster losses, improved public health, greater climate resilience and strengthened food and water security.[3,4] Nature's restoration will also depend on enabling and supporting those who work with nature, such as farmers, fishers and foresters, to effectively contribute.

There are then five cross-cutting areas where steps can be taken to address the main reasons we identify why progress is limited and prospects are largely off track.

Key recommendation 4: Implement the EIP effectively. As a high-level plan the EIP does not provide detail on how actions will be delivered. Therefore, it needs to be supported by the development and implementation of delivery plans. These plans must show how actions will stack up to achieve the EIP targets and outcomes. DAERA and responsible NI Executive Departments need to drive action where it is needed most and ensure rapid and effective implementation of major initiatives where late or slow delivery will lead to overall failure.

Key recommendation 5: Address delays. The EIP needs to work alongside a range of strategies and plans. In particular, the draft Ammonia Strategy, the draft Nutrients Action Programme, draft Nature Recovery Strategy, draft Marine Plan for Northern Ireland, draft Circular Economy Strategy and draft Green Growth Strategy. It is essential that these are finalised, published and implemented if EIP targets and outcomes are to be achieved.

Key recommendation 6: Develop and implement effective governance by the Executive and its departments, and effective partnership working. A key barrier to progress is effective Executive and cross-departmental working. Dependencies on other policy areas and programmes and coordination challenges were amongst the most common reasons given for challenges and delays in the APR 2026. It is critical that greater leadership is provided by the Executive to catalyse action. It should be clear who is accountable, how decisions are made and how delivery of the EIP will be assured across NI Executive Departments and wider society. Where a partnership approach to delivery with stakeholders is taken this needs to be well supported.

Key recommendation 7: Improve resourcing. Ambitious plans can only be delivered if they are funded. The Executive faces significant funding pressures and resource constraints were the most common reason given for challenges and delays in the APR 2026. The Dasgupta Review and the now longstanding Stern Review on the economics of climate change both conclude that the benefits of strong and early action far outweigh the economic costs of not acting.[2,5] Current levels of funding are inadequate and there are improvements that can be made to current schemes that would make more effective use of available resources. Resources for public investment can also be generated through application of the EPPS polluter pays principle.

Key recommendation 8: Develop and implement an effective monitoring, evaluation and learning framework. DAERA's APR 2026 was a significant and welcome contribution and provides a basis for monitoring progress. APRs should improve over the timeframe of the EIP. The required increase in the pace and scale of implementation means it is more important than ever to understand what is working and when to change course to ensure that outcomes are achieved effectively. Lessons learned from monitoring and evaluation need to be reported transparently and inform adaptive management of delivery of the EIP. There are critical evidence base gaps that need to be addressed to enable assessment of progress and the effects of interventions to ensure that limited resources are being used as effectively as possible.

8.6 Conclusions

The EIP states that it will form the basis for a coherent and effective set of interventions that can deliver real improvements in the quality of the environment, people's health and wellbeing and create opportunities to develop the economy.

In our view, this EIP does not yet set out a coherent and effective set of interventions and its implementation is not yet achieving the real improvements that are desired. However, current actions are putting in place the necessary foundations for making further progress.

There are critical interdependencies with other strategies and policies which are delayed. All are needed sooner rather than later. However, this means there is a real opportunity to take a more integrated approach and ensure that these complement the EIP to provide coherence from the strategic policy level through to local decision making.

The current pace and scale of action will not drive and deliver the progress that is needed for the EIP to be effective. Delivering all that is planned would substantially improve the prospects of achieving ambitions. Acting on our key recommendations will address priority areas for action and go a long way in ensuring the effectiveness of interventions.

Environmental outcomes are determined by a wide range of factors. Most environmental pressures are linked to the systems that meet society's needs for food, energy, mobility and the built environment. As a result, these drivers of environmental degradation and nature loss are tied in complex ways to jobs and earnings; to infrastructure investments, skills and knowledge; and to lifestyles, public policies and institutions.[14]

This means policy measures need to consider the environmental, social, economic and governance dimensions of human activities. This is recognised in the EIP with its environmental, social and economic aims. However, the effectiveness of policy measures will be limited if they do not improve coherence, harness synergies and deal transparently with trade-offs.

Looking across the EIP, the food system is particularly important as it links many actions and influences a broad range of outcomes across SEOs. The food system is central to realising environmental outcomes, ensuring food and nutrition security and supporting economic development and rural communities.

There is a broad policy framework related to food. This has had a prevailing socio-economic focus and strongly framed the development of the agricultural sector. Ensuring policies are aligned to move the food system in the right direction is one of the biggest opportunities

DAERA currently has to strengthen cross-government working to deliver on environmental targets and outcomes as well as realising social and economic benefits.

Strengthening the coherence and interlinkages between the EIP, Food Strategy Action Plan, draft Circular Economy Strategy and the draft Green Growth Strategy would deliver a coherent and effective set of interventions that address the whole food system and the range of actors that operate within it. DAERA's role in leading on key developments and the cross-departmental Food Programme Board provides it with a real opportunity to deliver better outcomes. The Dasgupta Review was clear – a failure to integrate food and biodiversity policy risks locking in ecological decline and economic vulnerability.[2]

Looking ahead, while the overall picture is not encouraging, it is important not to let this weaken resolve. While the implementation of many actions in the EIP are not progressing as desired, the clear efforts that have been made in recent years to address challenges are putting in place the foundations for future progress. However, important targets such as 30 by 30 are only four years away. The window of opportunity is closing, and interventions take time to have an impact so there is a need to act quickly to make up lost ground.

As highlighted in the APR 2026 conclusion, the focus must now be on delivery and turning strategies into measurable improvements. While the challenge is significant, the direction is clear and a concerted effort is required to achieve the significant environmental improvements that are so urgently needed.

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Annex: Glossary of terms and acronyms

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Term	Description
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.
APR	The Annual Progress Report 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.
Areas of Special Scientific Interest (ASSIs)	Protected sites that are designated for their unique wildlife, habitats, or geological features. These sites are identified and managed under the Environment (Northern Ireland) Order 2002 to conserve biodiversity and geodiversity.
Barrier	An element of government activity that inhibits delivery 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.
Climate adaptation	The process of adjustment to actual or expected climate change and its effects, in order to moderate harm or seize beneficial opportunities.
Climate mitigation	Interventions to reduce emissions or enhance the sinks of greenhouse gases.
Coherence	The situation in which the parts of something fit together in a natural or reasonable way. In the policy context, multiple areas or activities align 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	A formal process of inviting people to share their views on an issue to help inform decision-making.
Contextual Indicator	A metric that tracks environmental states, drivers, or pressures. In each annual progress report we may use different contextual indicators. They are used to provide further context to our assessment and support those indicators used to directly assess key environmental trends.
Critical levels	The maximum concentration of pollutants in the air that plants and ecosystems can withstand before being harmed.
Critical load of nitrogen	The thresholds above which harmful effects of nitrogen deposition on ecosystems become apparent.

Term	Description
DAERA	Northern Ireland Executive's Department of Agriculture, Environment and Rural Affairs for Northern Ireland.
Defra	The UK Government's Department for Environment, Food and Rural Affairs.
Delivery (plan)	A document setting out how goals, targets and/or policies will be implemented, including expected changes, assigned roles and responsibilities, and the decision making process involved.
Dissipative use	The irreversible loss of concentrated materials into the environment, making them physically or economically impossible to retrieve.
Drivers	The social, economic, demographic, technological and institutional factors that indirectly drive environmental change. Drivers can be positive (reducing environmental harm) or negative (increasing it). Examples include population growth, economic development, consumption habits, technological innovation and policy shifts.
Ecosystem services	The benefits people obtain from ecosystems. Ecosystem services can be divided into supporting (e.g., soil formation), regulating (e.g., clean water, climate), provisioning (e.g., food) and cultural (e.g., education, tourism), although many services can sit under more than one category.
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.
Environmental stewardship	The policy process for protecting, restoring and improving the environment, from defining desired outcomes to developing the means to deliver them.
Emission Reduction Commitments (ERCs)	The UK's national emission-reduction commitments from 2020, set out in the National Emission 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.

Term	Description
Favourable Condition	Feature categorisation used when the feature is meeting its objectives.
Goals	Statements that describe fundamental, broad aspirations that an organisation is aiming to achieve through its activities.
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 APR 2026 includes a set of 48 indictors; these measure environmental changes that relate to the 22 EIP themes across 6 SEOs.
Invasive species	Invasive species are species that are introduced, intentionally or unintentionally, outside of their natural geographic range where they establish and spread, causing environmental, social, and/or economic impacts.
GBF	Kunming-Montreal Global Biodiversity Framework. An historic Framework that sets out an ambitious pathway to reach the global vision of a world living in harmony with nature by 2050.
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.
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.
Objectives	Statements of specific, tangible outcomes that an organisation is aiming to achieve.

Term	Description
Other Effective Area-based Conservation Measures (OECMs)	OECMs are geographically defined areas other than Protected Areas, 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.
OEP	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.
OIF	The Outcome Indicator Framework (OIF) includes a set of 48 Indicators; these measure environmental changes that relate to the 22 EIP themes across 6 SEOs.
OSPAR	OSPAR, named after the original Oslo (dumping from ship/aircraft) and Paris (land-based pollution) Conventions, is the legal instrument guiding international cooperation on the protection of the marine environment of the North-East Atlantic. The European Union and 15 governments cooperate under the OSPAR Convention.
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 with a size of less than or equal to 2.5 µm.
Policies	The core measures 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.
Producer Responsibility	Producer Responsibility is a policy approach which sees the polluter pay principle being applied to producers of material goods. Producers must be responsible for the end-to-end lifecycle of their products; pay the correct costs for their disposal; consider their design so their use is maximised, either through reuse, repair, or durability.
Prospects	The possibility or likelihood of achieving environmental goals and targets based on current policy progress and environmental trends.
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.
SEO	Strategic Environmental Outcome.

Term	Description
SMART	Targets that are specific, measurable, achievable, relevant, time bound.
Special Areas of Conservation (SACs)	SACs are designated for habitats and species (excluding birds) under the Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995.
Special Protection Areas (SPAs)	SPAs are designated for species of, and habitats for, breeding, over-wintering, and migrating birds under the Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995.
Species abundance	The sum total of individuals from a given set of species within a given area.
State	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.
Strategies	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.
Targets	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.
Unfavourable condition	The categorisation of protected site feature condition used when the feature is not meeting its objectives.
Unfavourable recovering condition	The categorisation of feature condition used when a feature of a protected site, that is not currently in a favourable condition but is showing signs of improvement due to appropriate management or conservation efforts. This status indicates that the feature is on a positive trajectory towards meeting its conservation objectives, although it has not yet fully achieved them.
Vision	A short statement that embodies the future that government aspires to achieve.

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