HM Government

25 Year Environment Plan Progress Report

January 2018 to March 2019

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Contents

Foreword from the Secretary of State 1
Executive summary 3
Overview 3
What progress have we made? 3
What further action will we take? 5
Part one - Goals 20
Introduction 20
1 Clean air 21
2 Clean and plentiful water 24
3 Thriving plants and wildlife 30
4 Reduced risk of harm from environmental hazards such as flooding and droughts 37
5 Using resources from nature more sustainably 42
6 Enhanced beauty, heritage and engagement with the natural environment 46
7 Mitigating and adapting to climate change 49
8 Minimising waste 53
9 Managing exposure to chemicals 56
10 Enhancing biosecurity 57
Part two - Cross-cutting themes 61
Introduction 61
11 Hardwiring strong environmental action into legislation 61
12 Funding, financing and incentivising improvement in natural capital 62
13 Global leadership on the environment 63
14 Supporting strong local leadership and delivery 67
15 Inspiring action 70
16 Measuring progress 71

Foreword from the Secretary of State

This government is determined to make the United Kingdom the G20 nation with the highest level of ambition for the environment.

The 25 Year Environment Plan is the government's roadmap for action, centred on the pledge that ours will be the first generation to pass the natural world on in a better state to our children.

I am proud that this first progress report since the Plan was launched in January 2018 shows we have taken the kind of decisive action and shown the level of ambition for which the public is clamouring from governments around the world.

Notably, we have exceeded the ambition of the Plan by publishing a draft Environment Bill that puts accountability for the natural world - our most precious inheritance - at the very heart of government. Outside the European Union, a new system of protection will reward individuals, communities and businesses for making the right choices about the environment, and penalise those that continue to pollute.

At the same time, we will develop a more circular economy in which sustainable business can thrive and create healthy, beautiful places for people to live. Guided by the Plan, we will continue our mission to make our air and water cleaner, to support innovation and smart tech, to be more respectful of the natural resources we use and to curb waste - all the while encouraging other nations to do the same.

As younger voices have made very clear, the environment belongs to all of us, and the obligation to protect and improve it falls on all our shoulders. Our 25 Year Environment Plan was drawn up in recognition of this moral, ethical and also economic imperative: in a healthy environment, we too are healthier, and also happier and more productive.

For nature, our life support system, to work as it should, all elements must be in harmony - the air we breathe, the water that covers most of the Earth's surface, the plants, animals, habitats and ecosystems around us; and the state of the many cherished places we wish to protect, restore and enhance.

Scientific data - and the evidence of our eyes - tell us that these vital elements are not in harmony. Already, the planet's health and its ability to sustain life are impaired. Biodiversity and habitats are suffering and valuable carbon sinks being lost.

Our 25 Year Environment Plan is the route to a cleaner, greener future for a nation that will champion nature's intrinsic value, and the value of all life. A living document, it will be updated to reflect changing environmental needs and pressures.

Importantly, we will continue to assess our progress by drawing on established datasets to monitor environmental change. Designed well, metrics encourage new behaviour by helping government and private actors assess what they must do to restore the vital natural capital on which prosperity and economic health depend.

While there is a long way to go, and much more to do, the 25 Year Environment Plan is the means by which we will meet our ambitions, responsibilities and of course our key promise to future generations. The encouraging progress so far is only the start.

The Rt Hon Michael Gove MP

Secretary of State for Environment, Food and Rural Affairs

Executive summary

Overview

When the 25 Year Environment Plan was published in January 2018, the government committed to put in place regular and transparent reporting of progress against our new metrics, including to Parliament. This is the first progress report since the Plan was published. It is the first step along the path to meet the long-term aim set out in the Plan to be the first generation to leave the environment in a better state.

We will take the opportunity of leaving the European Union to set up a new system of environmental governance. In so doing, we will grow a greener economy, helping sustainable businesses to thrive, creating healthy, beautiful places for people to live, and playing our part in leading the world toward a more sustainable future.

Of the 40 priority actions expected to make the most significant contribution to the ten goals of the Plan, four have already been delivered. A further 32 are on track for timely delivery. The remaining four actions are subject to minor delays, primarily due to resources being temporarily redirected to support our preparations to leave the EU.

What progress have we made?

Since the Plan was published, the government has taken important steps towards transforming environmental policy.

- **Stronger environmental governance.** We published a draft Environment Bill, the first in over 20 years, which puts environmental ambition and accountability at the heart of government. It will be a major step forward for improving environmental standards as we leave the EU. The Bill will establish a strong and independent new body, the Office for Environmental Protection, to hold government to account for adherence to environmental law and 25 Year Environment Plan delivery.

- **Public money for public goods.** We introduced an Agriculture Bill into Parliament that allow us to introduce a fairer, more sustainable system after almost 50 years under EU rules. The legislation will mean that farmers are paid for their work to protect the environment and provide other public goods. It replaces the current subsidy system, which pays farmers based on the total amount of land farmed.

- **Biodiversity net gain.** We consulted on plans for biodiversity net gain so that new houses meet the needs of people, while contributing to ecological recovery and enriching the quality of local greenspaces. In the future, delivery of much-needed housing and infrastructure will not be at the expense of the environment.

The Chancellor's Spring Statement this year confirmed that the government will use the forthcoming Environment Bill to mandate net gain for biodiversity on new developments in England.

The government has also made progress in laying the foundations for the delivery of targeted actions that will tackle some of our most significant environmental problems.

- **Clean air.** We published the Clean Air Strategy, which sets out ambitious plans to cut air pollution through a more coherent regulatory framework and stronger powers for local authorities to control major sources of air pollution.

- **Minimising waste and taking action on plastic pollution.** We brought in one of the world's strongest microbeads bans and set out plans to ban plastic straws, cotton buds and stirrers, extend the 5 pence plastic bag charge and introduce a tax on plastic packaging with less than 30% recycled content. We published a comprehensive Resources and Waste Strategy as a blueprint for eliminating all avoidable waste and doubling resource productivity.

- **Thriving plants and wildlife.** We strengthened protections for ancient woodlands, veteran trees and other irreplaceable habitats in the revised national planning policy framework. We put the country at the forefront of combating the illegal wildlife trade with our landmark Ivory Act establishing one of the world's toughest bans on ivory trade. In the Spring Statement we announced a new global review by Professor Sir Partha Dasgupta to assess the economic value of biodiversity.

- **Protecting marine ecosystems.** We consulted on plans for 41 new Marine Conservation Zones, safeguarding almost 12,000 square kilometres of marine habitat in UK waters, and backed plans by Ascension Island to designate over 150,000 square miles of its waters as a fully protected 'no-take' Marine Protected Area. Together, these mark the most significant 'Blue Belt' expansion to date. We published a Fisheries White Paper and the first Fisheries Bill in over 40 years, providing a framework for world-class sustainable fisheries for current and future generations.

The government has also been working with partners to improve people's access to and engagement with nature:

- The **Ministry of Housing, Communities and Local Government** provided an additional £13.1 million to support urban parks and green infrastructure.

- The **Department for Education** allocated £10 million to provide children from disadvantaged backgrounds with better access to the natural environment in and out of school.

- The **Department for Environment, Food & Rural Affairs (Defra)** has partnered with Step Up To Serve to develop and launch #iwill4nature, a key strand of the #iwill campaign for 2019 in support of the Year of Green Action. #iwill4nature seeks to encourage greater participation of young people from all backgrounds in environmental social action projects. As part of this we are exploring approaches to incorporate youth voice to the development of environment policy.

In addition to this, we have made notable progress in the delivery of key actions against many of the goals of the Plan, as summarised in Table 1.

The European Union (Withdrawal) Act 2018 and secondary legislation made under it will bring all existing EU environmental law into domestic law and make sure that the Act continues to operate effectively after the UK leaves the EU. As part of the Environmental Regulations programme, we have made 13 affirmative and 15 negative Statutory Instruments using the powers in the Act to correct deficiencies arising from the UK's withdrawal from the EU. These include areas such as waste, air quality, water, and protection of habitats and species. The Statutory Instruments will amend legislation to correct references to EU legislation, transfer powers from EU institutions to domestic institutions and ensure we meet international obligations.

What further action will we take?

Although we made good progress in completing actions since the Plan was published, we know the challenge we face is tremendous. We will need to redouble our efforts if we are to generate real environmental improvements and respond to threats such as climate change. Aspects of the natural capital that supports the country's long-term prosperity and wellbeing remain at risk.

We will take concerted action over the coming months and years to build on the improvements and help reverse the declines.

Our priorities for this year are set out against the following themes.

Supporting wildlife and nature

Many species, and many of the rich ecosystems that we value, have been declining, globally and at home. These declines are not new; but they are substantial, and they require a real step change in our ambition for wildlife. Equally, the UK's departure from the EU provides an opportunity to revolutionise the way in which we protect our countryside, while also continuing to produce world-class food, plants and trees.

We will begin testing and trialling possible components of a new system of environmental land management that rewards farmers and landowners who deliver environmental

outcomes. The system will be designed in a way that supports innovative approaches and can facilitate complementary private sector investment

Through £1.2 million of cross-government funding from Highways England, Homes England and Defra, we will develop a local natural capital planning approach for the Oxford-Cambridge Arc. This will build on the efforts of the four pioneer projects, which have been testing different approaches to local partnerships and planning.

Recognising the importance of protecting England's natural and heritage assets, Julian Glover will complete his independent review of National Parks and Areas of Outstanding Natural Beauty. This will make recommendations in areas such as how to improve biodiversity and the case for extension or creation of designated areas.

Defra will publish an England Peatland Strategy, setting out our vision to ensure all of our peatlands meet the needs of wildlife and people.

Improving environmental quality

Climate change is one of the most urgent and pressing challenges we face today, posing significant threats to the environment and society. Reducing emissions and public exposure to air pollutants is also fundamental to a healthy environment. Furthermore, by preserving our stock of material resources and prolonging the lives of the materials and goods we use will minimise waste. This will continue to move our society away from the inefficient 'linear' economic model where we 'take, make, use, throw'.

Domestically, we will start developing a new emissions reduction plan for agriculture and continue implementation of the National Adaptation Plan. In particular, the publication of a government policy statement on flooding and coastal erosion risks.

The government will also implement key actions from both the Clean Air Strategy and the Resources and Waste Strategy, including:

- legislating to prohibit the sale of the most polluting fuels for domestic fuel burning on stoves and open fires,
- consulting on legislation to reduce ammonia emissions from agriculture,
- responding to the consultation on extending producer responsibility for packaging,
- issuing a call for evidence on bio-based and biodegradable plastics standards, and
- encouraging food surplus redistribution and food waste minimisation through a fund of £15 million available during 2019 and 2020.

Globally, the UK played a central role in helping to secure the Paris Agreement in 2015. We will continue to demonstrate global leadership in our response to the threat of climate

change and its significant impacts on our ecosystems. In particular, by pressing for urgent international action to hold the increase in global average temperature to well below 2°C above pre-industrial levels, and pursue efforts to limit the temperature increase to 1.5°C, in line with the objectives set out in the Paris Agreement.

We are considering the implications of the Paris Agreement for the UK's long-term emissions reduction targets, including on setting a net zero emissions target. We have also offered to host the 26th Conference of the Parties to the UN Framework Convention on Climate Change in 2020. The UK is also co-leading on climate resilience at the UN Secretary General's Climate Change Summit in September.

The UK government remains committed to providing £5.8 billion in International Climate Finance over the five years to 2020/21 and helping developing countries reduce emissions and build resilience to the impacts of climate change, including investing in the world's most biodiverse forests and supporting sustainable land use.

Strengthening environmental governance

At the heart of our plans for 2019 and beyond will be the Environment Bill, which puts in place a new statutory framework for environmental governance and oversight. This will ensure that improving the environment is hardwired into the way we plan and make decisions across government and civil society.

Our actions set out clear intent, but our success will ultimately be measured by our ability to achieve positive environmental outcomes. The new 25 Year Environment Plan outcome indicator framework[1], published alongside this progress report, presents a powerful new way to measure changes in our environment. Our aim in publishing this framework is to draw together a comprehensive suite of measures for the state of our natural world, drawing on established data sets and identifying where new information is required and how we might best obtain it.

Taken together, this framework of environmental governance will combine with clear planning and reporting and inclusive and integrated practical action to bring about the economy-wide, cross-government changes we need to restore our natural world.

As part of this, we have asked the Natural Capital Committee to provide advice on developing cost effective approach to an environmental citizen science project that integrates existing data, including the outcome indicator framework, and increases citizen engagement with the environment.

Since the Plan was published, we have taken the first paces along this greener path and set out the next steps to ensure lasting change. This first report shows that, although the

[1] https://www.gov.uk/government/publications/25-year-environment-plan

challenges are great and the road to environmental recovery will be a long one, we are already beginning to see the benefits of green action. The promise of our 25 Year Environment Plan is a healthier, greener, more prosperous world, now and for generations to come.

Progress made towards goals in 25 Year Environment Plan

Clean air

- Published Clean Air Strategy which plans to cut air pollution through a more coherent regulatory framework and stronger powers for local authorities to control major sources of air pollution.

Clean and plentiful water

- Water companies collectively committed over £5 billion over the next five-year period to improve the water environment.
- Published a National Policy Statement for water resources infrastructure to streamline the process of gaining planning permission for nationally significant infrastructure projects.
- Lead a water a conservation report in Parliament endorsing incremental leakage reductions towards 15% target by 2025 for water companies.
- Improved water quality by making enhancements to over 1,700km of the water environment.
- Introduced farming rules for water to tackle diffuse water pollution from agriculture.

Thriving plants and wildlife

Marine ecosystems:

- Consulted on a third tranche of Marine Conservation Zones, safeguarding almost 12,000km^2 of marine habitat in UK waters as well as backing plans by Ascension Island to designate over 150,000 square miles as a Marine Protected Area.
- Launched the Commonwealth Clean Oceans Alliance, co-led with Vanuatu, providing £69.4 million of overseas development aid to help stop plastic waste from entering the oceans, and supported a trebling of internationally-agreed targets for ocean protection, so that one third of the world's oceans should be protected by 2030.

Terrestrial ecosystems:

- Consulted, and subsequently announced in the Spring Statement 2019 that the forthcoming Environment Bill will mandate biodiversity net gain for new developments.
- Consulted on proposals to enable landowners to set voluntary, legally binding conservation covenants on their land.
- Provided £140,000 of funding to six nature recovery projects, to inform the development of the Nature Recovery Network.
- Appointed Sir William Worsley as Tree Champion to promote woodland creation and support development of a grant scheme.
- Provided £5.7 million of funding to support the Northern Forest and plant 1.8 million trees along the M62 corridor from Liverpool to Hull.
- Revised the National Planning Policy Framework to strengthen protections for ancient woodlands, veteran trees and irreplaceable habitats.
- Introduced the landmark Ivory Act, one of the world's toughest bans on ivory trade.

Reducing the risks of harm from environmental hazards

- Announced £13.1 million of funding in the autumn 2018 Budget for three new flood risk management projects.
- Consulted on potential legislative options to put regional water resource planning on a statutory footing.

Using resources from nature more sustainably

- Introduced an Agriculture Bill into Parliament that allows us to introduce a fairer, more sustainable system after almost 50 years under EU rules.
- Introduced a Fisheries Bill into Parliament, providing a framework for world-class sustainable fisheries for current and future generations.
- Published the Dame Glenys Stacey review on opportunities for improving farming regulation and inspection, recommending a more supportive, flexible and incentives-led approach to regulation.
- Awarded £10 million of funding to four landscape-scale projects to help restore 6,580 hectares of upland and lowland peatlands over three years, with forecast 23,000 tonnes of carbon saved per year.

Enhanced beauty, heritage and engagement with the natural environment

- Allocated £10 million of Department for Education funding, in two multi-year grants, for the Children in Nature programme to provide children from disadvantaged backgrounds with better access to the natural environment to support their mental health and wellbeing.
- Allocated £13.1 million of Ministry of Housing, Communities and Local Government funding to improve and create parks and green spaces.
- Opened a 16-mile section of the England Coast Path in Lincolnshire.
- Announced £10 million of funding in the autumn Budget for a Challenge Fund to plant and maintain at least 100,000 urban trees contributing towards planting one million new trees in urban areas.
- Published the first set of UK Natural Capital Accounts, including estimates of physical health benefits of visiting green spaces.
- Commissioned an independent review of England's National Parks and Areas of Outstanding Natural Beauty.
- Launched a Year of Green Action to encourage everyone to take action and protect, enhance and connect with their natural environment and create a legacy of long-term environmental action.
- Held the first Green GB Week to raise awareness of the actions UK business and the public can take to tackle climate change.

Tackling climate change

- Announced £50 million of funding for a new Woodland Carbon Guarantee to stimulate domestic carbon offsetting and incentivise new tree planting.
- Published the second National Adaptation Programme, setting out how we will address climate risks over the next five years.
- Pledged up to £250 million to the Global Environment Facility over the next five years to tackle major environmental challenges such as climate change and biodiversity loss.

Minimising waste

- Published a comprehensive Resources and Waste Strategy as a blueprint for eliminating all avoidable waste and doubling resource productivity by 2050.
- Introduced a world-leading ban on plastic microbeads.

- Consulted on plans to ban the sale and supply of plastic straws, cotton buds and stirrers, increase the carrier bag charge and extend to small and medium retailers, introduce a tax on plastic packaging with less than 30% recycled content, reform the system of producer responsibility for packaging, introduce national consistency of recycling collections in England, and introduce a deposit return scheme for drinks containers.

Enhancing biosecurity

- Published the Tree Health Resilience Strategy, setting out how to reduce threats, and strengthen the resilience of, trees, woodlands and forests.
- Launched a £17.7 million collaborative bacterial plant diseases research programme with Biotechnology and Biological Sciences Research Council.

Global leadership

- Announced a new, HM Treasury led global review to assess the economic value of biodiversity, chaired by Professor Sir Partha Dasgupta ahead of the Conference of the Parties to the CBD in 2020.

Table 1 - Status for priority actions

Completed 18/19	Action has been completed in 2018/19
In progress, on time	Action is in progress and expected to deliver on time
In progress, minor delay	Action is in progress but has been subject to some minor delays

Clean air

Action	Status	Progress
Clean Air Strategy	Completed 18/19	The Strategy was published on 14 January of this year.

Clean and plentiful water

Action	Status	Progress
Reforming our approach to water abstraction	In progress, on time	Reviewing unsustainable abstraction licences, developing a stronger catchment approach and modernising the abstraction service into the environmental permitting regime.

Increasing water supply and incentivising greater water efficiency and less personal use	In progress, on time	The National Adaptation Plan committed to announcing personal consumption number by end of year.
Continuing to develop the Environment Agency's forecasting and warning system so that bathers are warned of a possible short-term pollution problem	In progress, on time	On track to deliver in May 2020.

Thriving plants and wildlife

Action	Status	Progress
Developing a Nature Recovery Network	In progress, on time	We are exploring how to build the Nature Recovery Network into existing and planned delivery mechanisms, such as biodiversity net gain and Environmental Land Management, for example through the testing and trials programme for Environmental Land Management. We have initiated a phase of informal stakeholder engagement in the first quarter of the Financial Year 2019/20.
Embedding an 'environmental net gain' principle for development, including housing and infrastructure	In progress, on time	The 2018 revision of the National Planning Policy Framework contained clarified policy on biodiversity net gain, making it clearer that biodiversity net gain should be delivered through development and that opportunities for measurable gains should be taken. Government consulted on proposals to mandate biodiversity net gain in the planning system between December 2018 and February 2019. It was announced in this year's Spring Statement that the government will use the forthcoming Environment Bill to mandate biodiversity net gain.

Supporting the development of a new Northern Forest	In progress, on time	The Woodland Trust are leading the Northern Forest Partnership using our grant funding and have already met the first year planting target, planting 100,000 trees in a mix of urban and rural areas.
Appointing a national Tree Champion	Completed 18/19	Sir William Worsley was appointed in June of last year.
Consulting on and then designating a third tranche of Marine Conservation Zones	In progress, on time	Consultation completed, designations due by June 2019.
Working with our partners to learn lessons from Biodiversity 2020 in developing our new domestic strategy for nature	In progress, on time	An evaluation of Biodiversity 2020 is underway, and due to complete in the summer. Work on our new Strategy has started (for example through stakeholder discussions on the Nature Recovery Network). The Strategy will be further developed over the next 18 months, in parallel to the production of a new global agreement.
Providing opportunities for the reintroduction of native species	In progress, on time	The government continues to welcome applications for trial reintroduction projects of native species where there are clear benefits and has been engaged with a number of reintroduction proposals including that of the White Tailed Eagle. We have been working towards the development, and publication, of a Reintroductions Code and Guidance which will provide a clear framework for assessing reintroduction proposals.

Reducing harm from environmental hazards

Action	Status	Progress
Learning from the Natural Flood Management funding to develop our knowledge, identifying and promoting practical solutions for local implementation	In progress, on time	Natural Flood Management measures in government schemes and £15million invested in dedicated Natural Flood Management projects adding to the evidence base for Natural Flood Management.
Putting in place more sustainable drainage systems	In progress, minor delay	This project has been delayed due to Ministry for Housing, Communities and Local Government resources being re-prioritised to aid EU-Exit preparations.
Supporting an industry-owned voluntary code of practice to promote consumer and business confidence in measures to reduce the impact of flooding on buildings	In progress, on time	

Using resources from nature more sustainably

Action	Status	Progress
Introducing a sustainable fisheries policy as we leave the Common Fisheries Policy	In progress, on time	The government White Paper, developed in consultation with the Devolved Administrations: Sustainable fisheries for future generations was published in July 2018 and was well received by industry, environmental NGOs and the public. This fed into the drafting of the Fisheries Bill and will inform policy development post EU exit.

Designing and delivering a new Environmental Land Management system	In progress, on time	An Environmental Land Management System is under development working with public and private sector partners, supporting innovative approaches and facilitating complementary private sector investment. The system will focus on outcomes that will deliver the wildlife goals in the 25 Year Environment Plan and contribute to the Nature Recovery Network ensuring farmers are paid based on environmental outcomes achieved.
Improving soil health and restoring and protecting our peatlands	In progress, minor delay	Good progress has been made towards developing a healthy soils indicator with the launch of the Monitoring Soils Project. Work has continued to progress on protecting our peatlands, through the peatland capital grants scheme, though publication of the England Peat Strategy was delayed.

Enhanced beauty, heritage and engagement with the natural environment

Action	Status	Progress
Connecting people with the environment to improve health and wellbeing	In progress, on time	2019's Year of Green Action is underway. This includes a partnership with the youth social action charity, Step Up To Serve. Working with NHS England, Public Health England and Natural England to scope the potential for a social prescribing demonstration programme.
Commissioning an independent Review of National Parks and Areas of Outstanding Natural Beauty	In progress, on time	The Glover Review is due to complete in Autumn of this year.
Planting more trees in and around our towns and cities	In progress, on time	In the October 2018 Budget the Chancellor announced £10 million for an Urban Trees Challenge Fund which will fund planting and maintenance for at least 100,000 trees, including 20,000 valuable street trees.

Mitigating and adapting to climate change

Action	Status	Progress
Strengthen domestic carbon offset mechanisms to encourage private sector investment and develop markets for carbon reduction	In progress, on time	£50 million announced for Woodland Carbon Guarantee, which will boost the price of woodland carbon offsets.
Exploring opportunities to enhance the benefits of the global agreement under the Montreal Protocol to phase down the use of hydrofluorocarbons	In progress, on time	Following the Kigali Amendment to the Montreal Protocol we have been exploring opportunities to enhance the benefits of the phase down by seeking to ensure that hydrofluorocarbon replacement in refrigeration and air conditioning equipment is accompanied by energy efficiency improvements. Some estimates suggest a further 0.5C of global warming can be avoided if there is a switch to the most efficient technologies - that's on top of the 0.5C which the hydrofluorocarbon phase down will avoid.

Minimising waste

Action	Status	Progress
Achieving zero avoidable plastic waste by the end of 2042	In progress, on time	We are currently consulting on plans to reduce plastic waste including; increasing the carrier bag charge, banning plastic straws and stirrers and plastic-stemmed cotton buds, making packaging producers pay the full cost of dealing with their waste, and potentially introducing a Deposit Return Scheme for drinks containers.
Publishing a new Resources and Waste strategy in 2018 aimed at making the UK a world leader in resource efficiency	Completed 18/19	The Strategy was published on 18 December 2018.
Continuing to implement the Litter Strategy to reduce plastic litter and littering behaviour	In progress, on time	

Cracking down on fly-tippers and waste criminals	In progress, on time	

Managing exposure to chemicals

Action	Status	Progress
Protecting crops while reducing the environmental impact of pesticides	In progress, on time	Development work paused as resources have been reprioritised to aid EU Exit no-deal readiness work.
Minimising the risk of chemical contamination in our water	In progress, minor delay	

Enhancing biosecurity

Action	Status	Progress
Working with industry to place biosecurity at the centre of buying practices	In progress, on time	The Tree Health Resilience Strategy published in May 2018 will directly inform the development of the new Plant Biosecurity Strategy which is expected to be published in 2020.
Developing plans to reduce the risk from all high priority pathways for invasive non-native species introduction into England	In progress, on time	In relation to invasive non-native species we will continue to deliver the GB Invasive Non-native Species Strategy, including promoting good biosecurity and targeting high priority pathways of invasive non-native species introduction.
Maintaining an alert system to detect high priority invasive non-native species and implement contingency plans to rapidly eradicate them where feasible	In progress, on time	Maintaining the GB alert system and responding to new incursions of high priority species, whilst reviewing the resource requirements of the strategy and seeking opportunities to enhance our response in England and more widely in GB.

Cross-cutting themes

Action	Status	Progress
Create a framework which will specify how progress is to be measured	In progress, on time	The Outcome Indicators Framework is due to be published alongside the government progress report to Parliament on the 25 Year Environment Plan.
Work with delivery bodies to build on Area Integrated Plans to develop local natural capital plans	In progress, minor delay	Work is in progress but the development of local natural capital plans has been slightly delayed. The government has started a local natural capital planning project in the Oxford-Cambridge Arc to embed natural capital thinking in growth plans for the area, with £1.2 million of cross-government funding from Highways England, Homes England and Defra.
Work with partners to determine the potential for a domestic natural environment impact fund	In progress, on time	Working with stakeholders to stimulate the market for natural environment investment and provide a financial return on investment; channelling support towards technical assistance, and provide a mechanism for 'blending' finance from public and private sources to drive investment.
Establish a green business council to advise government on setting the right conditions to stimulate environmental entrepreneurism	Completed 18/19	The Council for Sustainable Business was established in 2018. It comprises business leaders and entrepreneurs who act as a sounding board for how businesses can help achieve the 25 Year Environment Plan goals, and how government can help businesses in meeting these goals. The Council will continue to meet and engage regularly with Ministers and Defra throughout 2019.

Launch a consultation on establishing a new independent statutory body to give the environment a voice and uphold environmental standards as we leave the European Union	In progress, on time	A draft Environment (Principles and Governance) Bill was published on 19 December 2018. The Bill puts in place a statutory framework to establish a world-leading green governance body, the Office for Environmental Protection, to hold government to account for adherence to environmental law and delivery of 25 Year Environment Plan.
Provide global leadership through active and influential participation in multi-lateral environmental agreements and international issues	In progress, on time	Our Ivory Act received Royal Assent on 20 December 2018 establishing one of the world's toughest bans on ivory trade. We showed global leadership in protecting the health of our oceans by launching the Commonwealth Clean Ocean Alliance in April 2018, which we co-lead with Vanuatu. In addition work on an ambitious global post Biodiversity 2020 framework is in progress.

Part one - Goals

Introduction

The 25 Year Environment Plan sets out how the government will achieve the aim of being the first generation to leave the environment in a better state than we found it. We will break the model of the last century where growth and prosperity have often come at the expense of our natural capital assets - our water, air, soil or wildlife - and tread a new path toward economic and environmental prosperity.

The Plan put forward a long-term programme of policy reform to reverse decades of environmental decline and respond to future pressures, such as climate change. By delivering against the vision of the plan, we will grow a greener economy, helping sustainable businesses to thrive, creating healthy, beautiful places for people to live, and playing our part in leading the world toward a more sustainable future.

This progress report comes ahead of the introduction of the Environment Bill in the second session of this Parliament. As such, the progress report provides early insights on how the annual reporting process may work once the independent statutory body, the Office for Environmental Protection, is established to hold the government and public bodies to account on environmental standards.

The remainder of the report is set out in two parts:

- Part one has a chapter that focuses on each of the ten goals set out in the original Plan. Each chapter provides a retrospective look at progress in the delivery of actions since the Plan was published until the end of March 2019. This part also provides a forward look of the government's key priorities for the remainder of 2019. Each chapter includes an extract from the relevant section of the Outcome Indicator Framework, which is being published alongside the progress report. This will help to demonstrate how far the actions taken so far will help to achieve our long-term environmental outcomes.

- Part two covers cross-cutting activity and progress in embedding the Plan across government and in the hearts and minds of the public to ensure the Plan's longevity. This part sets out how we are hardwiring the commitments of the Plan into future government policy through world-leading legislation of the environment, agriculture and fisheries, and how we are using the Year of Green Action to inspire young people, businesses and consumers to take action to improve the environment.

1 Clean air

1.1 Context

In the 25 Year Environment Plan we committed to reducing pollution to improve air quality for people and the environment. Reducing emissions and public exposure to air pollutants is fundamental to a healthy environment. Improvements in air quality, the natural environment and public health go hand-in-hand. The air that we breathe has no boundaries and many everyday activities such as industrial processes, agriculture, transport, construction, and heating our homes with solid fuels can have a detrimental impact on air quality.

Air pollution is the largest environmental health risk in England. Fine particulate matter shortens lives by contributing to the risk of developing cardiovascular disease and lung cancer. Air pollution also contributes to chronic illnesses such as respiratory problems[2].

Emissions of all five key air pollutants in England have fallen over the latest 18 years for which annual, country-level data are available as illustrated in Figure 1. Emissions of sulphur dioxide (SO_2) have seen the greatest reductions, falling by over 90% between 1998 and 2016. Emissions of nitrogen oxides (NOx) and non-methane volatile organic compounds (NMVOCs) have fallen by over 60%, while emissions of fine particulate matter ($PM_{2.5}$) and ammonia (NH_3) have fallen by 32% and 12% respectively.

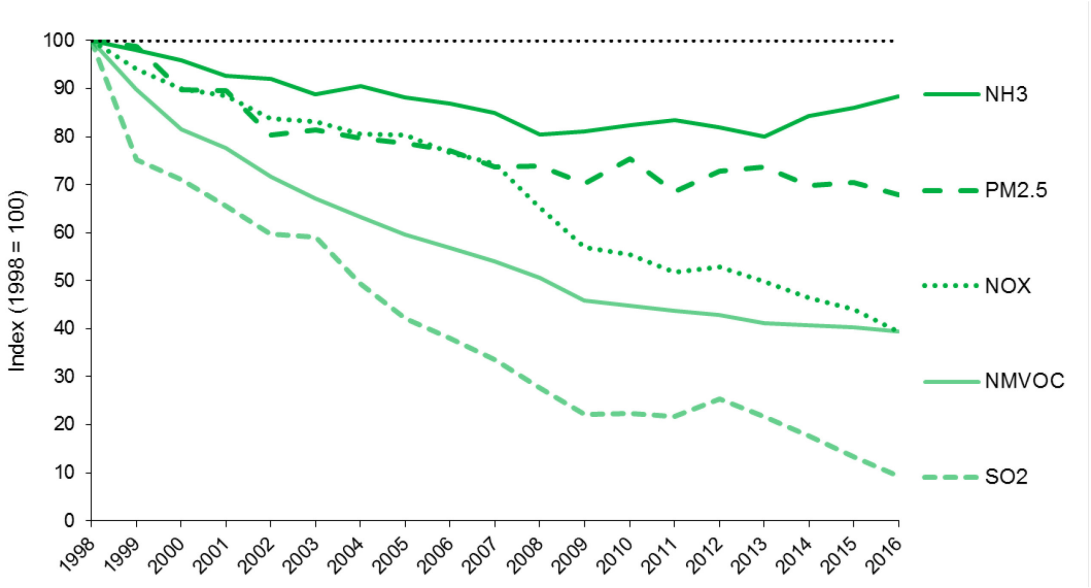
While national emissions have been falling, it is clear that those living and working in towns and cities are still exposed to concentrations of air pollutants that, in the long term, can be harmful to health. While higher concentrations of pollutants are inevitable in busy urban centres, it is possible to implement measures to reduce emissions, and even modest reductions in concentrations can achieve long-term public health benefits by reducing the occurrence of disease.

Pollution also affects the natural environment. In 2015, 62% of the area sensitive habitat in the UK had more nitrogen deposition than it could cope with effectively.[3] Around 80% of Special Areas of Conservation in England by area are estimated to receive damaging amounts of nitrogen, with inevitable changes and reductions to the biodiversity in those habitats.

[2] Public Health England, *Health matters: air pollution* (2018) https://www.gov.uk/government/publications/health-matters-air-pollution/health-matters-air-pollution

[3] Defra, *Clean Air Strategy 2019* (2019) https://www.gov.uk/government/publications/clean-air-strategy-2019

Figure 1 - Emissions for five key air pollutants in England, 1998 to 2016



Source: Defra

1.2 What progress have we made?

Recognising the challenge, and as a sign of England's determination to improve air quality, our new, ambitious and world leading Clean Air Strategy[4] was developed throughout 2018 and published in January 2019. The World Health Organization has welcomed our strategy as "an example for the rest of the world to follow".[5]

The Strategy includes new and ambitious goals, legislation, investment and policies to tackle air pollution from all sources, including domestic burning and agriculture. These measures are anticipated to cut the annual cost of air pollution to society by £1.7 billion by 2020, rising to £5.3 billion from 2030:

- Reduce fine particulate matter ($PM_{2.5}$) concentrations so that the number of people living in UK locations above the World Health Organisation guideline levels is reduced by 50% by 2025.
- Reduce nitrogen oxide (NOx) emissions in the areas where concentrations exceed EU limit values.

[4] Defra, *Clean Air Strategy* (2019) https://www.gov.uk/government/publications/clean-air-strategy-2019
[5] Defra, *Government launches world leading plan to tackle air pollution* (2019) https://www.gov.uk/government/news/government-launches-world-leading-plan-to-tackle-air-pollution

- Invest more than £3.5 billion to tackle poor air quality through cleaner road transport as set out in the UK plan for tackling roadside nitrogen dioxide concentrations (the NO_2 plan) published in 2017.
- End the sale of new conventional petrol and diesel cars and vans by 2040 as set out in the Road to Zero Strategy[6] published in July 2018.
- Reduce the single biggest source of particulate matter emissions by prohibiting the sale of the most polluting fuels for domestic fuel burning and ensuring that only the cleanest stoves are available for sale by 2022.
- Reduce air pollution from agriculture, which accounted for 87% ammonia emissions in 2017, through measures that require and support farmers to use low-emission farming techniques.

1.3 What further action will we take?

Building on the commitment made by the Prime Minister in July 2018, the Environment Bill will include measures to improve air quality across the country. This new legislative framework will underpin and enable the delivery of the Clean Air Strategy.

Recognising the importance of reducing exposure to $PM_{2.5}$ to improve public health, we will publish evidence this year to examine what action would be needed to meet the World Health Organization (WHO) annual mean guideline limit of 10 µg/m^3. We will also use this to inform a new, ambitious long-term target for $PM_{2.5}$. As the single biggest source of particulate matter emissions is domestic fuel burning on stoves and open fires, we committed in our Clean Air Strategy to legislate to:

- prohibit the sale of the most polluting fuels,
- make changes to the Clean Air Act to make Smoke Control Areas easier to enforce, and
- provide stronger powers to local authorities to go further in areas of high pollution.

We also committed to develop a dedicated communication campaign targeted at domestic burners to improve awareness of the environmental impact of their actions. We have begun work to take these actions forward and consulted between August and October 2018 on phasing out the most polluting fuels.

In 2019, Defra will consult on a policy to reduce emissions from urea-based fertilisers, which emit on average around five times more ammonia than alternative fertilisers. We will

[6] Department for Transport, *The Road to Zero* (2018) https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/739460/road-to-zero.pdf

consult on other regulatory measures requiring the adoption of low-emissions equipment as soon as possible to provide certainty for the sector in making investment decisions.

Achieving our ambition of reducing the harm to human health from air quality by half will require concerted effort across government; the Department for Transport is implementing the Road to Zero Strategy, the Department of Business, Energy and Industrial Strategy is working with Defra to mitigate the air quality impacts of biomass energy production, the Department for Health and Social Care is exploring the role the National Health Service can play in reducing air pollution, and the Ministry for Housing, Communities and Local Government is helping to ensure that local authorities are supported to address air quality at a local level.

2 Clean and plentiful water

2.1 Context

Water is one of the most important of our natural capital assets. Not only is it essential for human life but we need sufficient water in our watercourses, lakes, estuaries, groundwater and wetlands to protect the environment and our wildlife. It is vital that we maintain the quantity and quality of the water available in all our waterbodies for future generations. However, the challenge is getting harder.

The pressure on our water is increasing. Our supplies are under pressure from climate change, while pressure on water quality and demand continues to increase due to population growth. It may seem that water is plentiful in our country but the available water per person is actually less than in many Mediterranean countries[7]. Reducing the quality of our waters increases the costs of water treatment, it also affects the wildlife and the recreational value of these water bodies.

In the 25 Year Environment Plan we made the commitment to improve at least three quarters of our waters to be as close to their natural state as soon as practicable, mirroring our legal requirement under the Water Framework Directive to achieve that objective by 2027. This will be challenging to achieve. In 2017, 16% of English surface water bodies assessed under the Water Framework Directive were in a high or good status.

[7] Defra, *Water conservation report* (2018) https://www.gov.uk/government/publications/water-conservation-report-2018

We plan to work towards this goal by:

- Reducing damaging abstraction from rivers and groundwater. Work started on addressing the problem of unsustainable abstraction before the publication of the 25 Year Environment Plan. Since 2008, 282 licences have been revised returning 40 billion litres of water to the environment.
- Reaching or exceeding environmental objectives for rivers, lakes, coastal and groundwater. The third round of River Basin Management Plans due in 2021 will build on the second round, looking beyond specially protected waters, to address action to improve all natural waters.
- Supporting OFWAT's ambitions on leakage, minimising the amount of water lost through leakage year on year, with water companies expected to reduce leakage by at least an average of 15% by 2025.
- Minimising by 2030 the harmful bacteria in our designated bathing waters and continuing to improve their cleanliness. Current bathing water standards are high; the number of designated bathing waters in England meeting at least the minimum standard (sufficient) has dropped slightly over the last two years from 98.5% in 2016 to 97.9% in 2018, but it remains above the 97.1% recorded in 2015. Likewise, the number of bathing waters in England meeting the excellent or good standard over the last three years has remained largely stable at around 92%, while the number of those rated as poor continues to track at around 2%.

2.2 What progress have we made?

Since the Plan was published, the Environment Agency worked with water companies to reduce abstraction. The Agency also worked to develop the Water Industry Natural Environment Programme to protect and enhance our natural water bodies. Water companies have collectively committed over £5 billion in the next five-year period to improve the water environment.[8]

To make progress towards our goal of returning water bodies close to their natural state requires action on three tiers.

[8] Defra, *£5 billion investment by water companies to benefit the natural environment* (2018) https://www.gov.uk/government/news/5-billion-investment-by-water-companies-to-benefit-the-natural-environment

Since the Plan was published, we have made progress in these areas:

1. Ensuring there is enough water for the environment

    a. We are addressing the problem of unsustainable abstraction by reviewing licences to return water to the environment. Since 2017, the Environment Agency has reduced the risk of deterioration by revoking more than 600 licences.[9]

    b. We published a National Policy Statement for water resources infrastructure to streamline the process of gaining planning permission for nationally significant infrastructure projects. The Statement commits to securing benefits to the environment through application of net gain. Consultation on the statement concluded in January 2019 and will be finalised later this year following parliamentary scrutiny.

2. Reducing demand

    a. In our water conservation report laid in Parliament in December 2018, we endorsed leakage reduction targets for water companies. Water companies are required to achieve an ambitious 15% reduction by 2025, and 50% by 2050.[10]

    b. We have been working with water companies to agree ambitious reductions to household consumption, pushing them to provide the tools to customers to deliver this. The first draft Water Resource Management Plans show an average personal consumption of 123 litres per person per day by 2045 down from 141 litres today. Our work with companies has so far reduced this by a further seven litres. [11]

    c. Two years ago the government opened the largest competitive water retail market in the world. Although water efficiency measures require further

[9] Defra, *Water abstraction plan: Environment* (2018) https://www.gov.uk/government/publications/water-abstraction-plan-2017/water-abstraction-plan-environment

[10] Defra, *Water conservation report* (2018) https://www.gov.uk/government/publications/water-conservation-report-2018

[11] Defra, *Water conservation report* (2018) https://www.gov.uk/government/publications/water-conservation-report-2018

development, approximately 270 to 540 million litres of water have been saved. [12]

3. Improving water quality

    a. As part of our efforts to reach or exceed objectives the Environment Agency has worked with partners to enhance over 1,700 km of the water environment this year. This includes improvements to infrastructure and treatment facilities serving agricultural and urban communities.

    b. We have introduced new rules for all farmers in England to tackle diffuse water pollution from agriculture, called the Farming Rules for Water.[13] We will evaluate the impact on environmental status in the next phase.

    c. In this year's price review (PR19), a catchment approach based around natural capital assets has been pioneered by the water sector. The Environment Agency estimates that this will save bill payers over £100 million and deliver a range of additional environmental benefits.

[12] Ofwat, *Open for business: Reviewing the first year of the business retail water market* (2018) https://www.ofwat.gov.uk/wp-content/uploads/2018/07/State-of-the-market-report-2017-18-FINAL.pdf

[13] Defra, *Farming rules for water from April 2018* (2017) https://www.gov.uk/government/publications/farming-rules-for-water-in-england

Case study - Developing a stronger catchment approach Felixstowe Peninsular Project, Suffolk.

For the past five years, Suffolk County Council have chaired a catchment group looking to maximise benefits of water management in the River Deben, which is part of the East Suffolk Priority Catchment. Abstractors have worked together and with other stakeholders, including the Environment Agency, Natural England, Water Company and Internal Drainage Board, to design the Felixstowe Peninsula Scheme, a multi-benefit project.

Water that would have been pumped out to sea by the Internal Drainage Board will be re-abstracted and piped back upstream to a number of abstractors with storage reservoirs. There will also be an offtake that the local water company can use to make use of surplus water. The IDB will be the abstraction licence holder and any money generated will be put back into managing the catchment and maintaining sea walls that protect the agricultural land. In addition, the discharge point where the Internal Drainage Board currently pump water out to sea is damaging designated salt marsh habitat (see photo below), and the scheme will see the discharge point moved. This will enhance and protect the environment and restore salt marsh. The licence was issued by the Environment Agency in February 2019 and the project can now be taken forward by the catchment group.

Kings Fleet sluice, the current discharge point to the salt marsh. The Felixstowe Peninsular project will now pipe water back to be used by farmers.

2.3 What further action will we take?

We will continue to work with water companies as they finalise their water resource management plans to ensure that demand management targets remain ambitious and supply side options are considered. A consultation ended in March 2019 covering abstraction as well as consulting on potential legislative options to put regional water resource planning and drainage and wastewater management planning on a statutory footing.

Throughout 2019, the government will continue to work on all three tiers to move our waters towards a more natural state.

1. Ensuring there is enough water for the environment

    a. The Environment Agency will amend or revoke a further 121 abstraction licences in the Restoring Sustainable Abstraction Programme and others at risk of deterioration.

    b. Four more at-risk catchments will be added to the stronger catchment approach.

    c. The Environment Agency's digital licensing service will be widened during 2019 to enable many more abstractors to have access to information, which will help them manage water abstraction during periods of dry weather.

2. Reducing demand

    a. We are launching a ‘call for evidence’ on setting an ambitious *per capita* consumption target in due course. Alongside this, we will consult on the different methods available to reduce water consumption. This includes labelling of water using products, tightening building regulations, supply pipe adoption, metering and tariffs. We will use the evidence to inform our response later this year.

3. Water Quality

    a. A public consultation on the next cycle of River Basin Management Plans, which set out the actions that all stakeholders will take to meet our water quality ambition, will begin in October 2019.

b. Improvements in bathing waters will continue with 22 bathing water improvement measures aimed at improving 17 designated bathing waters and 25 measures to prevent deterioration at ten designated bathing waters. In addition, 128 bathing water investigations are planned at 137 designated bathing waters. The current indicative capital cost for the bathing waters programme is £70 million from 2020 to 2025, which should deliver tangible improvements for designated bathing waters by 2030.

c. The Environment Agency is continuing to develop the Pollution Risk Forecast which is due to be released for the 2020 bathing water season.

3 Thriving plants and wildlife

3.1 Context

We value plants and wildlife, and the ecosystems of which they are part, intrinsically; for their beauty, fragility and complexity. We also value them because they underpin so many of the economic and social benefits we derive from our natural world, including carbon capture, pollination, public health and recreation.

Many species, and many of the rich ecosystems that we value, have been declining, globally and at home. Globally, species are under great pressure, with the global extinction rate suggested to be 1,000 times the background rate in the fossil record. In England, there have also been significant declines in species and ecological communities over the last 50 years. These declines are not new; but they are substantial and they require a real step change in our ambition for wildlife.

Despite these long-term patterns, there are recent points of progress on which we can build on land and at sea, with new funding for peatland and woodland, new protections for nature through planning and with the expansion of our marine protected areas. We want to turn around the decline in the state of nature in England, enhancing our own environment and contributing to the vital global task of reversing the destruction of nature. We will build a growing network of land, water and sea in England that is richer in plants and wildlife and more resilient to climate change. This includes improving the condition of our best sites for plants and wildlife, expanding and better connecting our wildlife-rich terrestrial, freshwater and marine habitats, and restoring ecosystems so that they continue to benefit people.

In the 25 Year Environment Plan we made the following commitments:

Marine ecosystems

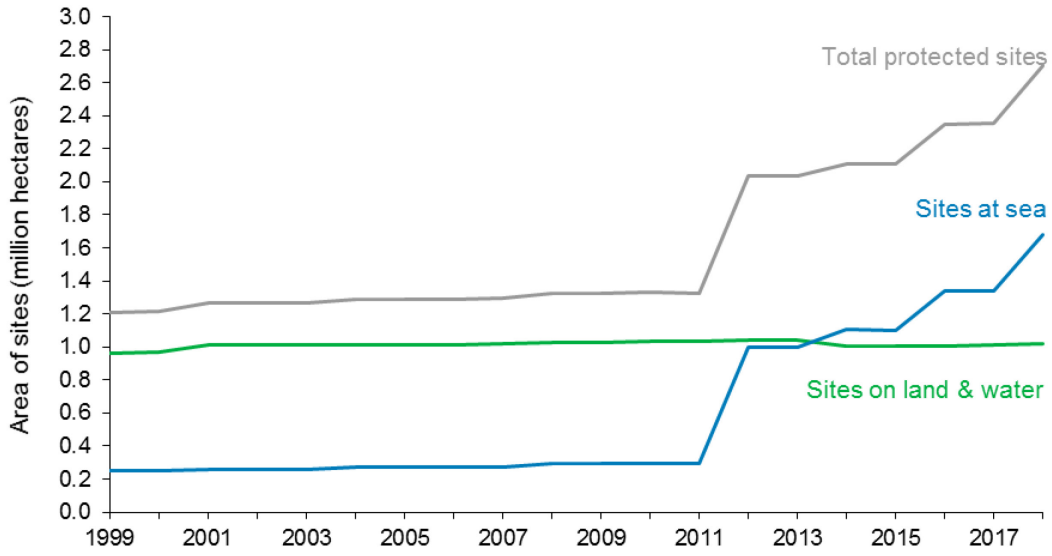
- Reverse the loss of marine biodiversity and, where practicable, restore it.
- Increase the proportion of protected and well-managed seas, and better manage existing protected sites.
- Ensure seafloor habitats are productive and sufficiently extensive to support healthy, sustainable ecosystems.

Terrestrial ecosystems

- Restore 75% of our one million hectares of terrestrial and freshwater protected sites to favourable condition, securing their wildlife value for the long term.
- Create or restore 500,000 hectares of wildlife-rich habitat outside the protected site network, focusing on priority habitats as part of a wider set of land management changes providing extensive benefits.
- Recover threatened, iconic or economically important species of animals, plants and fungi, and where possible to prevent human-induced extinction or loss of known threatened species in England and the Overseas Territories.
- Increase woodland in England in line with our aspiration of 12% cover by 2060: this would involve planting 180,000 hectares by end of 2042.

Defra's outcome indicator framework accompanying this report provides detailed analysis on progress against some of these commitments. As an example, Figure 2 illustrates how the total extent of land, water and sea protected in England through national and international protected areas has increased from 1.2 million hectares in 1999 to 2.7 million hectares in 2018. The area of sites at sea has increased substantially, by more than five times since the time series began in 1999 although the majority of this increase took place between 2011 and 2018. The area of sites on land and water has remained relatively stable over time, increasing by 6% between 1999 and 2018.

Figure 2 - Extent of protected sites in England, 1999 – 2018.



Source: Defra

3.2 What progress have we made?

3.2.1 Marine ecosystems

Supporting our aim to conserve and improve our protected marine sites, Defra has consulted on a third tranche of 41 Marine Conservation Zones, safeguarding almost 12,000 square kilometres of marine habitat in UK waters, and backed plans by Ascension Island to designate over 150,000 square miles of its waters as a fully protected 'no-take' Marine Protected Area. Together, these mark the most significant 'Blue Belt' expansion to date.[14]

3.2.2 Terrestrial ecosystems

The government is maintaining legislative protection for plants and wildlife through the European Union (Withdrawal) Act. This ensures that the whole body of EU environmental law, including the Habitats and Wild Birds Directives, continues to have effect in the UK law after departing from the EU.

Building on our commitment to consult on whether biodiversity net gain should be made a mandatory requirement for new development, the forthcoming Environment Bill will be used to mandate net gains for biodiversity through development in England. This will mean that the delivery of much-needed housing and infrastructure development is not at the expense of habitat, species and the benefits they provide.

[14] Defra, *World-leading 'Blue Belt' expands as new marine protections revealed* (2018) https://www.gov.uk/government/news/world-leading-blue-belt-expands-as-new-marine-protections-revealed

While the proposed mandatory requirement does not apply to Nationally Significant Infrastructure Projects, we have brought biodiversity net gain more clearly into infrastructure policy, including through the draft National Policy Statement for Water Resources.

Government is taking action to enable landowners to conserve treasured features on their land, such as trees, woodland or flower-rich meadows. Defra has consulted on proposals in England for voluntary, legally-binding conservation covenants to enable landowners to provide long term conservation benefits on their land. This consultation will support the consideration of Conservation Covenants proposals for the Environment Bill.

The Nature Recovery Network will provide an expanding and connected network of places for wildlife. It will form a key element of post-2020 strategy for nature and is an initiative we would like to develop in partnership. To inform the development of the network, Defra and Natural England provided £140,000 to six nature recovery partnership projects – from pollinators in the West Country to bats in the East and wet grassland wildlife in the North East. These six projects, which build on work of existing partnerships, are being used to learn lessons on effective partnerships for landscape-scale nature recovery.

Supporting our aim to restore and create new habitats, we have provided £10 million of funding to four landscape-scale projects to help restore a total area of 6,580 hectares of upland and lowland peatlands over three years. The work is forecast to save 23,000 tonnes of carbon per year.[15]

Defra continues to invest in woodland creation. We appointed Sir William Worsley as Tree Champion. He will continue to promote woodland creation to landowners and other stakeholders, while also supporting Defra and the Forestry Commission on the development of a future grant scheme.[16]

We took action to enhance our ecosystems, for example by providing funding for the trial reintroduction of beavers in Devon to understand further the impact of bringing back this formerly native species.

[15] Defra, *Grants for Peatlands Restoration* (2018) https://www.gov.uk/government/news/grants-for-peatlands-restoration

[16] Defra, *Tree Champion to expand England's woodland* (2018) https://www.gov.uk/government/news/tree-champion-to-expand-englands-woodland

3.3. What further action will we take?

3.3.1 Marine ecosystems

We will shortly be publishing an update to the UK Marine Strategy, setting out the progress that we have made on improving protection of our marine environment since 2012, and consulting on our future objectives, targets and indicators for assessing the health of UK waters.

The government will continue to take action to protect our most cherished species. This includes by developing and implementing a UK cetacean bycatch mitigation initiative. Through working closely with stakeholders, we will develop local, pragmatic solutions to the problem of bycatch, which remains one of the most significant threats to whales, dolphins, and porpoise in our waters.

3.3.2 Terrestrial ecosystems

First, we are taking action to develop the Nature Recovery Network. Drawing on lessons learnt from existing partnership, Defra will look to build the Network into delivery mechanisms. We are developing a new Environmental Land Management System, focussed on outcomes that will deliver the wildlife goals in the 25 Year Environment Plan and will explore, for example through our testing and trials work, how Environmental Land Management could contribute to the Nature Recovery Network. We are exploring how data and high quality mapping can support the network, so that we can better align activity for the environment at the local and national level with the development of the network.

Second, we are taking action to increase habitats extent, including those with carbon storage potential. Supporting our aims to increase woodland cover, the government is providing £5.7 million to kick start development of a new Northern Forest along the 120-mile M62 corridor from Liverpool to Hull. This funding will be used to plant a minimum of 1.8 million new trees in the region by 2022. In the 2018 Budget, the Chancellor announced £60 million for new woodland creation through the Woodland Carbon Guarantee and Urban Trees Challenge Fund. The new Woodland Carbon Guarantee will incentivise eligible land managers to plant trees by making long-term payments for the carbon sequestered in new forests and woodlands.[17] Additionally, Defra will publish an England Peatland Strategy.

[17] Forestry Commission, *Woodland Carbon Fund* (2018) https://www.gov.uk/guidance/woodland-carbon-fund

Natural England will continue to work with landowners and conservation organisations on species recovery projects such as 'Back from the Brink', supported by the Heritage Fund and other charitable organisations, the aim being to save 20 species from extinction and benefit over 200 more through 19 projects in England.[18]

As part of our commitment to providing opportunities for the reintroduction of native species, a licence has been granted by Natural England for the introduction of White-tailed Eagles to the Isle of Wight. The first release is due to take place this summer. This site has been chosen for its proximity to rich foraging grounds in the Solent. The project is being led by the Roy Dennis Wildlife Foundation and Forestry England.

[18] Defra, *Working to save England's rarest ant from extinction* (2018) https://www.gov.uk/government/news/working-to-save-englands-rarest-ant-from-extinction

Case study - Developing in partnership the Nature Recovery Network - testing approaches around Martin Down National Nature Reserve

The Nature Recovery Network will expand and better connect our existing wildlife habitats supporting the recovery of wildlife and providing wider benefits for local communities. The government has supported six front-runner projects to test how partnerships of farmers, land managers and conservation organisations can best support this ambition. One project is being conducted around the iconic Martin Down National Nature Reserve in Hampshire.

At Martin Down, our statutory conservation agency, Natural England, are working with the Game and Wildlife Conservation Trust and 43 farmers across 236km^2 of the Hampshire and Wiltshire countryside to explore how together they can take active ownership of nature recovery, extending and connecting chalk grassland and other wildflower habitats, supporting species conservation and helping wildlife to brim over from the nature reserve into the wider countryside. The project aims to recover threatened wildlife such as turtle dove, lapwing, corn bunting, barn owl, grey partridge, hedgehog, adder, harvest mouse, arable flowers, Duke of Burgundy butterfly and other wild pollinators.

Since the Martin Down project began, collaborative work supported by funding from Countryside Stewardship or farmers has led to significant amounts of habitat creation including: ponds for turtle doves, new barn owl nesting boxes and widespread supplementary bird-feeding stations. Conservation work is aided by a landscape-scale farm habitat map that is used to identify priority areas for connectivity across the 43 farms. Community outreach is progressing well and there is good engagement from local people; helping with wildlife surveys, and attending farm walks and training events.

Wildflower habitat on farmland around the Martin Down National Nature Reserve.
Image courtesy of Jessica Brooks, Game and Wildlife Conservation Trust.

4 Reduced risk of harm from environmental hazards such as flooding and droughts

4.1 Context

Climate change will intensify the water cycle, increasing risk of floods and droughts. Flooding is one of the major threats to our national economy and personal wellbeing. Over five million businesses and homes in England are at risk from flooding and approximately 700 properties are at risk of complete loss to erosion over the next 20 years. In recent times, England has experienced extreme flooding events in Somerset, Cumbria and Yorkshire.[19]

At the same time over the past 40 years, England has experienced a number of droughts. In 2010-2012 many parts of England experienced the driest 18 months for over 100 years. The dry winters over this period led to low groundwater level across most of England, with the exception of the north-west. This resulted in seven water companies imposing temporary use bans on 20 million people in April 2012.[20]

These extreme weather events add further pressures to our water supplies and risk of flooding. Public water supplies are now much more resilient to dry weather conditions than in the past, and we continue to invest in flood management. However, population growth and climate change will increase the risk to people, the environment and the economy.

In the 25 Year Environment Plan, we made the following key commitments:

- Making sure everyone is able to access the information they need to assess any risks to their lives and livelihoods, health and prosperity posed by flooding and coastal erosion
- Bringing the public, private and third sectors together to work with communities and individuals to reduce the risk of harm
- Making sure that decisions on land use, including development, reflect the level of current and future flood risk
- Ensuring interruptions to water supplies are minimised during prolonged dry weather and drought
- Boosting the long-term resilience of our homes, businesses and infrastructure.

[19] Environment Agency, *Managing flood and coastal erosion risks in England: 1 April 2011 to 31 March 2017* (2018) https://www.gov.uk/government/publications/flood-and-coastal-risk-management-national-report

[20] Environment Agency, *Drought response: our framework for England* (2017) https://www.gov.uk/government/publications/drought-management-for-england

Since 2011, flood and coastal erosion risk management schemes have achieved significant increases in property protection. In addition, these have reduced the risk to transport and agriculture as well as improving habitat for wildlife. England's flood forecasting and warning services have improved, reaching more people through a range of communication channels, providing more accurate and understandable information and timely advice. Major incident plans are in place and many more staff have been trained to respond to flooding. We have worked with communities to help them understand the actions they can take to reduce their own risk and the measures they can put in place to increase their properties' level of protection.

4.2 What progress have we made?

4.2.1 Drought

We have worked with water companies in the development of their water resource management plans and drought plans to ensure they remain committed to increasing sustainable water supplies and reducing demand.

We consulted on potential legislative options to put regional water resource planning on a statutory footing and require water companies to produce joint proposals which set out the most optimal regional solutions to ensure sustainable long term water supply. The consultation expects regional planning to become more inclusive, planning for the needs of other sectors who will also be affected by drought.

The government has endorsed leakage reduction targets for water companies: a 15% reduction by 2025, and 50% by 2050. These levels of leakage reduction are far more ambitious than ever before. Defra published its water conservation report in December 2018. This outlines the work that government has undertaken since 2014 to reduce water consumption and our plans for further improvements.[21]

4.2.2 Floods

We are investing £2.6 billion between 2015 and 2021 in 1,500 new flood defences to better protect 300,000 homes from the effects of flooding.[22] Already, since 2015, we have over 155,000 homes better protected by nearly 500 new schemes.

[21] Defra, *Water conservation report 2018* (2018) https://www.gov.uk/government/publications/water-conservation-report-2018

[22] Defra, *Programme of flood and coastal erosion risk management schemes* (2018) https://www.gov.uk/government/publications/programme-of-flood-and-coastal-erosion-risk-management-schemes

We worked closely with the Ministry for Housing, Communities and Local Government to strengthen the National Planning Policy Framework, ensuring that the planning of new developments take current and future flood risk into account.

In July 2018, the government published its Surface Water Management Action Plan. This sets out the steps being taken, to manage the risk of surface water flooding. We are taking forward the 22 actions in the Plan to both improve our understanding of the risks and strengthen delivery.[23]

In addition to already record levels of investment, the Autumn 2018 budget announced £13.1 million to take forward three new projects. These will:

- **Boost action to make homes and buildings more resilient to floods when they occur**: Supporting the development of a sustainable private sector led market in flood resilience products and services.
- **Expand the existing Flood Warning Service to all communities at high risk of flooding from rivers and the sea:** Expanding the Environment Agency's Flood Warning Service which provides flood warnings to the public, professional partners and the media across England.
- **Boost action on surface water flood risk:** Improving management of surface water flood risk, bringing surface water flood risk assessment more closely into line with what we have for rivers and the sea, and boosting implementation of the Surface Water Management Action Plan published in July 2018.

4.3 What further action will we take?

4.3.1 Floods

We will publish a Government Policy Statement setting out plans to continue to manage the risk of flooding and costal erosion in the future. The Environment Agency published its updated Long Term Investment Strategy in February 2019, which will help inform the revised long-term National Flood and Coastal Erosion Risk Management Strategy to be published later this year. This will set out how all partners will work together to make places, infrastructure and growth more resilient to our future climate.

[23] Defra, *Surface water management action plan – July 2018* (2018) https://www.gov.uk/government/publications/surface-water-management-action-plan

The delivery of our £15 million Natural Flood management programme continues. The Environment Agency completed its first 'Interim Lessons Learnt' which will contribute the ongoing development of evidence to explore how natural processes for flood management can be used more effectively.[24]

4.3.2 Drought

We will continue to work with water companies throughout 2019 in the current round of water resource management planning to ensure that demand management targets remain ambitious and necessary supply side options are considered.

The Environment Agency is working on a National Framework for water resources to set out expectations of water companies planning to increase resilience to drought, including the needs of other sectors, such as agriculture and industry. During the hot dry weather in summer 2018, the Environment Agency worked with the farming industry and water companies to flex regulatory positions on abstraction whilst protecting the environment, which enabled a large number of farmers to continue to water their crops.

[24] Defra, *Natural Flood Management Programme: Interim Lessons Learnt* (2019) https://catchmentbasedapproach.org/wp-content/uploads/2019/03/NFM-Interim-Lesson-Learnt_January-2019.pdf

Case Study - Lowdham Natural Flood Management

Lowdham Natural Flood Management project is a joint venture between the main partners of Trent Rivers Trust and Nottinghamshire County Council, and is part of Defra's Natural Flood Management pilot programme.

The project will construct a range of Natural Flood Management measures which aim to help slow the flow of water in the Cocker Beck and therefore reduce the risk of flooding to the villages of Lambley & Lowdham in Nottinghamshire.

The Cocker Beck flows through a relatively steep sided valley before entering the villages of Lambley & Lowdham which results in a fast catchment response to storm events. The Natural Flood Management interventions will work in the upper catchment slowing flows and providing additional environmental benefits. These measures will also complement a larger scale capital project further downstream.

43 potential interventions were prioritised in the catchment according to how they impacted on the flow of water, their ability to provide multiple benefits and the engagement of local landowners. Consents have been agreed for the chosen interventions and construction started in November 2018. These include 1700 trees planted, 11 leaky dams, and 4 on-line ponds, 0.09Ha priority wetland habitat created, 1309m^3 of additional storage within the catchment and 2.79km of watercourse improved.

Monitoring on the interventions will be undertaken up until March 2021 with the help of Nottingham Trent University who will be looking at the impact on water levels and sediment levels within the Cocker Beck. The lessons learnt from this, and other projects in the Natural Flood Management programme, will further inform the evidence base around Natural Flood Management, particularly on how well Natural Flood Management schemes integrate with more traditional flood risk schemes in their locality.

5 Using resources from nature more sustainably

5.1 Context

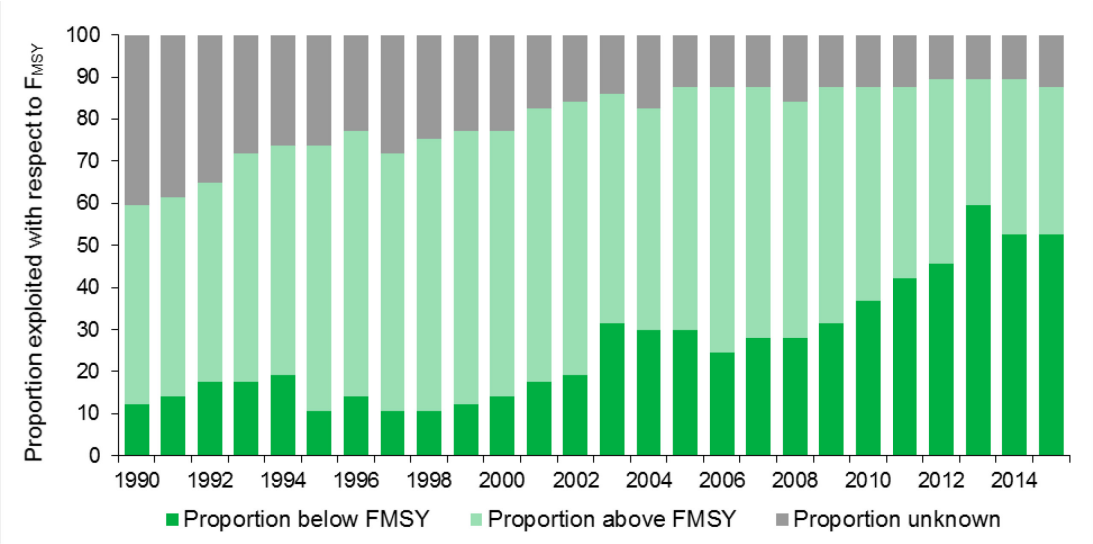
The UK's departure from the EU provides an opportunity to revolutionise the way in which we protect our countryside, whilst also continuing to produce world-class food, plants and trees. After nearly 50 years of EU rules, we will use this opportunity to provide a fair return for land managers and farmers who provide the greatest environment benefits, laying the foundations for a Green Brexit. In order to achieve our aims, in the 25 Year Environment Plan we committed to:

- Ensuring that food is produced sustainably and profitably.
- Improving our approach to soil management: by 2030 we want all of England's soils to be managed sustainably, and we will use natural capital thinking to develop appropriate soil metrics and management approaches.
- Increasing timber supplies sustainably.
- Achieving good environmental status of our seas including to ensure that all fish stocks are recovered to and maintained at levels that can produce their maximum sustainable yield as part of a wider approach to restore and protect the marine ecosystem.

As an example of progress made against our commitments, Figure 3 shows the proportion of fish stocks fished at or below levels capable of producing maximum sustainable yield has increased from 12% in 1990 to 53% in 2015. There has been a further 25% increase in stocks fished at maximum sustainable yield levels since 2016.[25]

[25] Defra, *Parliament written question* (2018) https://www.parliament.uk/business/publications/written-questions-answers-statements/written-question/Commons/2018-01-09/121754

Figure 3 - Marine fish stocks of UK interest harvested sustainably, 1990 to 2015



Source: Centre for Environment, Fisheries and Aquaculture Science; International Council for the Exploration of the Sea.

5.2 What progress have we made?

The Agriculture and Fisheries Bills provide the UK with the powers required to implement our vision for sustainable agriculture and fisheries management. We will set our own agricultural agenda and operate as an independent coastal state for the first time in nearly 50 years.

Following consultation and drafting throughout 2018, the Agriculture Bill was introduced to the House of Commons in September 2018, and the Fisheries Bill in October 2018. They have both cleared first, second readings and committee stage and are currently waiting to go to report stage.

The Agriculture Bill sets out how farmers and land managers will in future be paid for public goods, such as better air and water quality, improved soil health, carbon sequestration and climate adaptation, such as measures to reduce flooding. An Environmental Land Management system will replace the current outdated 'direct payments' system, whereby farmers and land managers until now have been paid based on the amount of land farmed, and not environmental outcomes achieved. Further details on this system can be found in Part two of this report.

The new Fisheries Bill will provide a framework to enable us to continue to push towards further stocks being fished at maximum sustainable yield and delivering our ambition for sustainable fishing in the future. The Bill sets out clear objectives to ensure that fisheries and aquaculture activities are environmentally sustainable in the long-term, and to take an

ecosystems-based approach to fisheries management measures. It enhances accountability for delivery against these objectives by requiring the UK's fisheries administrations to publish a statutory joint fisheries statement setting out how they will pursue these objectives. The Bill also contains enhanced powers to manage fisheries activity for conservation purposes.

The UK published its first Bioeconomy Strategy in December 2018, in partnership with industry leaders and the research community. A strong bioeconomy reduces our dependence on fossil-based resources, cutting carbon emissions and creating new economic growth in rural, coastal and urban centres across the UK. Bioscience & biotechnology has the potential to create new solutions that are economically and environmentally sustainable as well as resource-efficient. These solutions will help to tackle global challenges and create opportunities in agri-food, chemicals, materials, energy and fuel production, health and the environment.

Defra asked Dame Glenys Stacey to lead an independent review to consider the opportunities for improving farming regulation and inspection. The final report was published in December 2018, recommending a more supportive, flexible and incentives-led approach to farming regulation.[26]

On soil, the government has made progress on the following:

- commenced its £10 million capital grant scheme to restore peatlands across England to their natural state. [27]
- worked with the Sustainable Soils Alliance to convene a workshop bringing together stakeholders to review and advise on the development of soil indicators. [28]
- started a Monitoring Soil Health project, to identify innovative and cost-effective ways of delivering the required additional information to support policy and enhance existing monitoring programmes. An improved understanding of soil health and monitoring approaches will also support the development of soil metrics for Environmental Land Management.

[26] Defra, *Dame Glenys Stacey review proposes farm regulation shake-up* (2018) https://www.gov.uk/government/news/dame-glenys-stacey-review-proposes-farm-regulation-shake-up

[27] Defra, *New £10 million fund to restore peatland* (2017) https://www.gov.uk/government/news/new-10-million-fund-to-restore-peatland

[28] Sustainable Soils Alliance, *Developing the Indicator Framework for the 25 Year Plan* (2018) https://static1.squarespace.com/static/58cff61c414fb598d9e947ca/t/5c6c2441ee6eb079bf395140/1550591042604/SSA+Report_Developing+the+Indicator+Framework+for+the+25+Year+Plan+Soil+Workshop+Report+9+October+2018.pdf

- announced a new Lowland Agricultural Peat Taskforce, to recommend ways to reduce the rate of loss of peatland soils for agriculture, and reduce carbon emissions, moving key agricultural land towards sustainable management.

5.3 What further action will we take?

The government will support the Fisheries and Agriculture Bills as they continue their passage through Parliament, engaging industry, civil society and Parliamentarians, towards Royal Assent.

Farmers will continue to be supported over a seven-year transition period as we leave the EU's Common Agricultural Policy. During the transition period, the government will work with farmers and land managers from 2019 to design, develop and trial the new system. Further details can be found in Part two of this report.

Defra will publish an England Peatland Strategy, which will set out our vision to ensure all of our peatlands are functioning for the needs of wildlife and people by 2030. This will include:

- an outline of the systematic approach that will ensure all peatland is on a path to full restoration or sustainable management, including pilots to test this approach
- further details of the Lowland Agricultural Peat Taskforce announced at the end of 2018.

Defra's £10 million capital grant scheme will, over the next year, continue to restore many iconic English peatlands. This includes:

- 157 hectares across the South Pennines,
- 98 hectares across the Meres and Mosses Natural Area in the North West of England,
- 1680 hectares across the moorlands of Bodmin, Dartmoor and Exmoor, and
- 2,073 hectares of lowland and upland peatland across North of England.

We have moved closer towards developing a national picture of our soils. In November we launched our Monitoring Soil Health project, to identify innovative and cost-effective ways to support policy and enhance existing monitoring programmes.

6 Enhanced beauty, heritage and engagement with the natural environment

6.1 Context

We want to conserve and enhance the beauty of our natural environment and make sure it can be enjoyed, cared for and used by everyone. Spending time in the natural environment can improve people's health and wellbeing and help strengthen communities. In the most deprived urban areas of England, people tend to have the poorest health and significantly less green space than wealthier urban areas. By enhancing the natural environment and making it easier for people from all backgrounds to access it, we can encourage more people to connect with nature and appreciate its benefits.

In support of this goal, we have made the following commitments:

- Safeguarding and enhancing the beauty of our natural scenery and improving its environmental value while being sensitive to considerations of its heritage.
- Making sure that there are high quality, accessible, natural spaces close to where people live and work, particularly in urban areas, and encouraging more people to spend time in them to benefit their health and wellbeing.
- Focusing on increasing actions to improve the environment from all sectors of society.

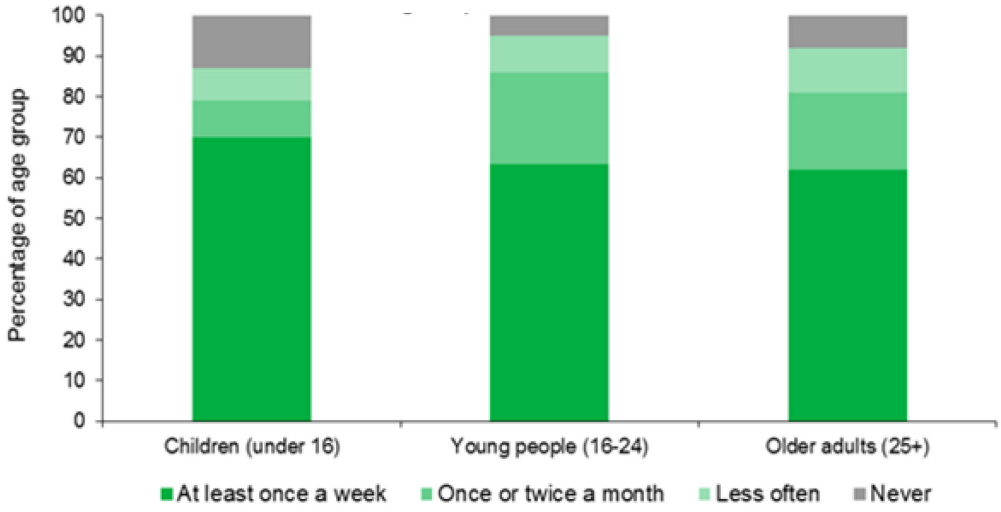
The evidence shows steady growth in the proportion of adults making frequent visits to natural environments.[29] However, certain groups, such as black, Asian, and minority ethnic populations and residents of the most socially deprived areas are visiting nature less than the average. Although children speak positively about nature, one in eight children did not spend any leisure time in nature during 2017/18 Figure 4 below.[30]

More people are choosing to walk or cycle instead of using their car, and more people are recycling regularly, but other pro-environmental behaviours remain static. A minority of people (around 10%) report participation in social actions such as donating time or money to environmental causes.

[29] Natural England, *Monitor of Engagement with the Natural Environment: Headline reports and technical reports 2016-2017 to 2017-2018* (2018) https://www.gov.uk/government/statistics/monitor-of-engagement-with-the-natural-environment-headline-reports-and-technical-reports-2016-2017-to-2017-2018

[30] Natural England, *Monitor of Engagement with the Natural Environment Children's Report (MENE) 2017-2018* (2019) https://www.gov.uk/government/statistics/monitor-of-engagement-with-the-natural-environment-childrens-report-mene-2017-2018

Figure 1 - Frequency of time spent outdoors by age group, 2017/18, in England



Source: Natural England – Monitor of Engagement with the Natural Environment Survey (MENE)

6.2 What progress have we made?

Since the Plan was published, notable actions completed include:

- **Two multi-year grants awarded for delivery of the £10 million Children and Nature programme,** which will provide children from disadvantaged backgrounds with better access to natural environments to support their mental health and wellbeing and engagement with school. [31] The first grant will provide greener grounds and pupil visits to green spaces for more than 300 schools with the highest proportion of disadvantaged pupils, and the second scales up care farming services (the therapeutic use of farming practices) for children and adults facing disadvantage or social exclusion with an aim to increase the number of care farm places to 1.3 million per year by 2022.

- **More than £13 million made available by the Ministry for Housing, Communities and Local Government to improve parks and green spaces** in England. Part of the funding (£9.7 million) will be for maintenance costs to essential playground repairs and the creation of new green spaces. An additional £2.75 million will be made available for the pocket parks plus programme to support communities to take the

[31] Defra, *Gove kicks off Year of Green Action* (2019) https://www.gov.uk/government/news/gove-kicks-off-year-of-green-action

lead in transforming their neglected and derelict spaces. A further £1.2 million has been provided to the National Trust and the National Lottery Heritage Fund's Future Parks Accelerator initiative, to test new and innovative approaches to managing and funding parks.[32]

- **A new 16-mile stretch of the England Coast Path** in Lincolnshire has opened up public rights of way, providing access to valuable coastal habitats and seascapes, boosting local tourism.

- Publishing the first national set of **UK urban natural capital accounts**, which includes estimates of physical health benefits of greenspace visits.

- Recognising the importance of protecting England's natural and heritage assets, we commissioned an independent review of National Parks and Areas of Outstanding Natural Beauty.[33] Julian Glover's review is due to complete in autumn 2019, making recommendations in areas such as how to improve biodiversity and connect more people with nature, including the case for extension or creation of new designated areas.

- The 2018 Budget announcement included £10 million funding for local community street trees and urban trees.

6.3 What further action will we take?

We recently launched the 2019 Year of Green Action to encourage everyone to take action and protect, enhance and connect with their natural environment.[34] Working with our green action ambassadors, we will be supporting events, building partnerships and showcasing leaders in green enterprise to create a legacy of long-term environmental action. We will also be sponsoring Year of Green Action Awards with partners to recognise positive action for the environment in 2019.

A new website showcases good practice, and draws together events and volunteering opportunities for all. We are putting young people at the heart in partnership with Step Up To Serve by supporting the #iwill4nature campaign, which is seeking to encourage greater participation of young people from all backgrounds in environmental social action projects and ensure their voices are heard. As part of this we are exploring approaches to

[32] MHCLG, *Brokenshire champions parks with over £13 million new funding* (2019) https://www.gov.uk/government/news/brokenshire-champions-parks-with-over-13-million-new-funding

[33] Defra, *Independent report: Terms of reference* (2019) https://www.gov.uk/government/publications/designated-landscapes-national-parks-and-aonbs-2018-review/terms-of-reference

[34] https://www.yearofgreenaction.org/

incorporate youth voice to the development of environment policy. With support from Pears Foundation and the #iwill Fund, and Step Up To Serve, a new Young People's Forest is being established to engage young people with nature, and empower them to make lasting change for the environment and their community.

The #iwill fund is a £40 million joint investment between the Department for Culture, Media and Sport (£20 million) and National Lottery Community Fund (£20 million), which supports the creation of new opportunities to engage young people in social action. Through 21 match funders, young people are being offered thousands of new opportunities including environmental social action such as:

- the Wave Project funded by Sport England which connects local surfers in South West to young people to reduce anxiety and depression, and
- the Wor Walker Project funded by Virgin Money Foundation, which works to enable young volunteers to take ownership of and improve their local park.

Building on commitments in the 25 Year Environment Plan and growing interest in social prescribing, Defra is working with NHS England, Public Health England and Natural England to scope the potential for a social prescribing demonstration programme that could help a broad spectrum of the population to support their mental health needs through engagement with natural environments. Later this year, we will consider the case for establishing demonstrator sites that use green space and green care in support of a preventative approach to healthcare and generate learning that could be shared nationwide.

7 Mitigating and adapting to climate change

7.1 Context

Climate change is one of the most urgent and pressing challenges we face today, posing significant threats to the environment and society. The government's commitment to tackling climate change and addressing the risks it poses is as strong as ever. Globally each of the last three decades has been warmer than any preceding decade since 1850.[35] In the UK, we are experiencing a warmer and wetter climate, with all of the warmest and the majority of the wettest years on record having occurred since the 1990s.[36]

[35] IPCC, *Climate Change 2014 Synthesis Report Summary for Policymakers* (2015) https://www.ipcc.ch/site/assets/uploads/2018/06/AR5_SYR_FINAL_SPM.pdf

[36] Defra, *The National Adaptation Programme and the Third Strategy for Climate Adaptation Reporting* (2018) https://www.gov.uk/government/publications/climate-change-second-national-adaptation-programme-2018-to-2023

The most recent UK climate projections show an increased likelihood of a warmer and wetter climate with an increased frequency and intensity of extremes.[37]

The UK has made significant progress since the Climate Change Act came into force in 2008, both in reducing emissions of greenhouse gases and adapting to the unavoidable impacts of climate change. Since 1990, greenhouse gas emissions have decreased by over 40% while the economy has grown by more than two-thirds.[38] The final greenhouse gas emissions statistics for 2017 confirmed we have outperformed our second carbon budget (2013-2017) and our latest projections suggest we are on track to meet the third (2018-22).

The government's Clean Growth Strategy published in 2017 set out ambitious plans and policies for meeting our future carbon budgets and further reducing emissions across the economy.[39] The global drive to reduce carbon emissions offers huge economic opportunities as it transforms all sectors of the global economy, which the UK is well placed to take advantage of. We have shown our commitment to maximising the opportunities of the global shift to clean growth by placing clean growth at the heart of our Industrial Strategy and making it one of four Grand Challenges. We want to position the UK at the forefront of low carbon technologies, systems and services that will be needed for this transformation.

Defra is responsible for efforts to reduce greenhouse gas emissions in the natural resources sectors, which include agriculture, land use, forestry, waste management, and fluorinated gases. We have halved our emissions from these sectors since 1990 and they now account for 15% of total UK emissions.[40] Agricultural greenhouse gas emissions have reduced by 16% since 1990, with many farms using more efficient agricultural practices. The UK's land use, land use change and forestry sector continues to provide net benefits in carbon sequestration.

Following the publication of the Intergovernmental Panel on Climate Change's special report on global warming of 1.5°C in October 2018, we asked our independent experts, the Committee on Climate Change, for its advice on the implications of the Paris Agreement for the UK's long-term emissions reduction targets, including on setting a net zero target. The Committee on Climate Change's recent report recommends that the UK legislate for a net-zero emissions target by 2050 at the earliest opportunity possible. We look forward to studying this comprehensive, ground-breaking report, and will respond in a timeframe

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[37] Met office, UKCP18 Headline Findings (2018) https://www.metoffice.gov.uk/binaries/content/assets/mohippo/pdf/ukcp18/ukcp18-headline-findings.pdf

[38] ONS, *Gross Domestic Product: chained volume measures: Seasonally adjusted £m* (2019) https://www.ons.gov.uk/economy/grossdomesticproductgdp/timeseries/abmi

[39] BEIS, *Clean Growth Strategy* (2017) https://www.gov.uk/government/publications/clean-growth-strategy

[40] BEIS, *Final UK greenhouse gas emissions national statistics: 1990-2017* (2018) https://www.gov.uk/government/statistics/final-uk-greenhouse-gas-emissions-national-statistics-1990-2017

which reflects the urgency of this crucial issue. In the 25 Year Environment Plan we made the following key commitments:

- Continuing to cut greenhouse gas emissions including from land use, land use change, the agriculture and waste sectors and the use of fluorinated gases
- Making sure that all policies, programmes and investment decisions take into account the possible extent of climate change this century
- Implementing a sustainable and effective second National Adaptation Programme.

7.2 What progress have we made?

A number of actions or announcements that support our goal on mitigating climate change are covered in other sections of this report. These include:

- Publication of the Resource and Waste Strategy in December 2018. In implementing the Strategy, we will continue to develop measures to reduce carbon emissions by boosting recycling rates and reducing the amount of waste that is sent to landfill.
- Announcement of the £50 million for a new Woodland Carbon Guarantee, to stimulate the market in domestic carbon offsetting and incentivise new tree planting.
- Announcement of the creation of the lowland agricultural peat taskforce[41] to deliver recommendations for a new more sustainable future for agriculture on lowland peatlands in England, with a particular focus on reducing greenhouse gas emissions from peat.
- Given the cross-cutting theme of climate change, further actions can also be found under the Global leadership section within Part two of this report.

The UK was one of the first countries to ratify the Kigali amendment to the Montreal Protocol, which came into force in January 2019. This international agreement will phase down the use of hydrofluorocarbons, powerful greenhouse gases, by 85% by 2036. The UK is already ahead of the Montreal Protocol requirements, having started to phase down hydrofluorocarbons since 2016 and most recently cutting hydrofluorocarbons usage by 37% since 2018, against a baseline period of 2009-2012.

[41] Defra, *Michael Gove Speech on UK Climate Change Projections* (2018) https://www.gov.uk/government/speeches/michael-gove-speech-on-uk-climate-change-projections

We published the second National Adaptation Programme in July 2018 along with the Third Strategy for Climate Adaptation Reporting. Together these set out our strategy for adapting to the climate change that we are already experiencing and that which we might see in the future. We confirmed in December that 88 organisations had committed so far to reporting under the Adaptation Reporting Power.[42]

In November 2018 we launched, with the Met Office, a new set of UK Climate Projections 2018.[43] These projections will provide a tool to inform future adaptation and mitigation planning and decision-making. Defra and the devolved administrations also commissioned the Adaptation Sub-Committee of the Committee on Climate Change to start developing the evidence review for the third Climate Change Risk Assessment.

7.3 What further action will we take?

The UK is a world leader in clean growth and we recognise the need to ensure that the momentum generated by the Paris Agreement is maintained. We have therefore offered to host the 26th session of the Conference of the Parties to the United Nations Framework Convention on Climate Change in 2020, and we are committed to ensuring it is a success. A final decision will be adopted at the 25th session of the Conference of the Parties in Chile in December 2019.

We will start developing a new emissions reduction plan for agriculture, in which we will set out our long-term vision for a more productive, low-carbon farming sector. We will also continue to develop work on the design of the new environmental land management scheme, which will deliver environmental outcomes including climate mitigation and adaptation.

In support of climate change adaptation, we will continue implementation of the National Adaptation Programme. Key milestones will include the publication of a government policy statement on flooding and coastal erosion, which will set out our expectations for managing these risks. We also plan to consult on the most appropriate methods to reduce our water consumption to ensure resilience in our water supplies (see also section on 'Reducing the Risks of Harm from Environmental Hazards').

The National Infrastructure Commission is carrying out a resilience study, to understand the current and future resilience of UK infrastructure.[44] This will develop a framework for

[42] Defra, *List of organisations reporting under adaptation reporting power: third round* (2018) https://www.gov.uk/government/publications/climate-change-adaptation-reporting-third-round/list-of-organisations-reporting-under-adaptation-reporting-power-third-round

[43] Met Office, *UK Climate Projections* (2018) https://www.metoffice.gov.uk/research/collaboration/ukcp

[44] National Infrastructure Commission, *Resilience Study* (2018) https://www.nic.org.uk/our-work/resilience/

assessing resilience and making recommendations to government that can be used in the National Infrastructure Assessment,[45] which is required by HM Treasury every five years. Integrating climate considerations into this process will ensure that decisions about future economic infrastructure needs take the UK's future climate into account in a consistent way.

8 Minimising waste

8.1 Context

We want to preserve our stock of material resources and prolong the lives of the materials and goods we use; moving society away from the inefficient 'linear' economic model where we 'take, make, use, throw'. A more circular economy will see us keeping resources in use for longer, so we extract maximum value from them. By recovering and regenerating goods and materials whenever we can will increase their usable life, improving resource productivity and minimising environmental damage.

In order to realise this ambition, our vision over the lifetime of the 25 Year Environment Plan is to:

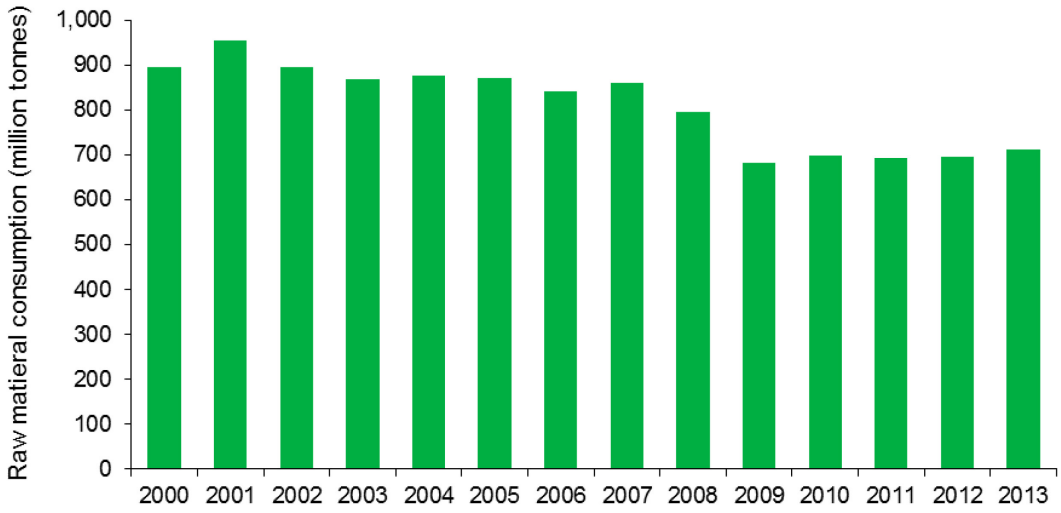
- double resource productivity,
- eliminate avoidable plastic waste, and
- eliminate avoidable waste of all kinds by 2050.

The challenge we face is significant. For example, evidence suggests that 80% of the damage inflicted upon the environment when products become waste can be avoided if more thoughtful decisions are made at the design stage.[46] Figure 5 illustrates how raw material consumption in the UK has declined over recent years. However, there is room for further improvement, which is why we committed in the 25 Year Environment Plan to double resource productivity by 2050.

[45] National Infrastructure Commission, *National Infrastructure Assessment* (2018) https://www.nic.org.uk/assessment/national-infrastructure-assessment/

[46] WRAP, *Embedding environmental sustainability in product design* (2013) http://www.wrap.org.uk/sites/files/wrap/Embedding%20sustainability%20in%20design%20%20-%20final%20v1.pdf

Figure 5 - Raw material consumption in the UK, 2000 to 2013



Source: Office for National Statistics

8.2 What progress have we made?

8.2.1 Actions in this country

The publication of the Resources and Waste Strategy in December 2018 was a major milestone on the path to achieving the goal of minimising waste.[47]

The Strategy is a key part of our commitment to leave the environment in a better condition for the next generation. The long-term strategic plan sets out how we will preserve our material resources by minimising waste, promoting resource efficiency and transitioning towards a circular economy.

As well as publishing the Strategy, since the 25 Year Environment Plan was published, we have continued to lead on tackling plastic pollution and:

- introduced a world-leading ban on microbeads,
- consulted on increasing the carrier bag charge and extending it to small and medium sized retailers,
- consulted on banning the sale and supply of plastic straws and stirrers and plastic-stemmed cotton buds,

[47] Defra, *Resources and waste strategy for England* (2018) https://www.gov.uk/government/publications/resources-and-waste-strategy-for-england

- announced plans for a world-leading tax on plastic packaging containing less than 30% recycled content,
- consulted on plans to reform the system of producer responsibility for packaging, by making packaging producers pay the full cost of dealing with their waste,
- consulted on introducing a consistent set of materials collected across England for recycling, and
- consulted on introducing a potential Deposit Return Scheme for drinks containers.

Furthermore, we announced in December 2018 that we are providing up to £60 million to transform the plastics economy through the Industrial Strategy Challenge Fund, so that we can establish the UK as the world's leading innovator in smart, sustainable plastic packaging.

The government announced in November 2018 that it is investing £20 million to tackle plastics and boost recycling: £10 million more for plastics research and development and £10 million to pioneer innovative approaches to boosting recycling and reducing litter, such as smart bins,. This is in addition to the £20 million for plastics research and development through the Plastics Innovation Fund announced in March 2018.

Beyond plastic, we have also continued to improve resource efficiency by tackling food waste through the Food Waste Prevention Programme.

8.2.2 Actions abroad

Further work undertaken to reduce waste internationally is referred to in Chapter 13, Global leadership on the environment.

8.3 What further action will we take?

A key challenge in delivering on the vision of the Resources and Waste Strategy is shifting emphasis from waste being viewed as a problem to be managed to a resource to be valued. We want to stimulate the domestic recycling market so we handle more waste in the UK as well as ensuring the waste we do have to export is handled properly. While we are putting mechanisms in place so that waste is managed more effectively when it does arise, our focus will be on preventing waste arising in the first place through better resource management.

We will be consulting on further measures set out in the strategy, including transposition of the Circular Economy Package and reforming waste carriers and duty of care regulations. We will also need to ensure that any transition from conventional fossil-based plastics to bio-based plastics is sustainable. We will therefore launch a call for evidence later this year on the development of standards for bio-based and biodegradable plastics.

Government is working with industry and the research community to seek evidence on the demand, benefits and implications, for example the impact on recycling streams, of a standard for bio-based and biodegradable plastics.

We are providing funds to combat the ongoing problem of food surplus waste. The Food Waste Prevention Programme is a fund of £15 million available during 2019 and 2020 to encourage food surplus redistribution and food waste minimisation. The first tranche of this money is anticipated to be awarded in May 2019, with the next tranche announced shortly thereafter.

We will continue to show our global leadership on tackling plastic pollution through the Commonwealth Clean Ocean Alliance and will deliver our support to developing members of the Alliance through the Technical Assistance Facility worth up to £10 million. The Commonwealth Litter Programme will complete its work in Africa, Asia and the Caribbean, developing marine litter action plans that will act as blueprints for each region.

9 Managing exposure to chemicals

9.1 Context

The 25 Year Environment Plan has a number of clear commitments to manage exposure to chemicals. To support our progress, we intend to publish an overarching Chemicals Strategy that will set out our approach to chemicals after we leave the EU. Working with the Environment Agency we have initiated a project to develop an early warning system for identifying emerging chemicals, in cooperation with many other agencies and institutes.

Significant progress has been made since 1990 to reduce emissions from Persistent Organic Pollutants. Polychlorinated biphenyls have declined by around 92%, hexachlorobenzene by 99% and dioxins by just under 87%.

9.2 What progress have we made?

We have set up a programme of work to consider the impacts of hazardous chemicals in products including Persistent Organic Pollutants with the aim of identifying where harmful chemicals are most likely to be found so that action can be taken to prevent them from entering secondary materials.

At an international level we continue to play a leading and influential role in developing goals for international chemicals management beyond 2020 with a specific focus on an improved science policy interface and indicators for the new framework to assess global progress. Working through our international partnerships, we are collaborating on research and data exchange. Through the Office for Economic Co-operation and Development and other bodies, we continue to work internationally to strengthen the standardisation of

methods to assess chemical safety and share information on emerging concerns and novel approaches to risk assessments.

For pesticides, we have recently commissioned a piece of work to explore options for the way in which we monitor pesticides in the terrestrial environment. The first stage of the work will involve a review of existing monitoring schemes, and the second phase will consider technical options in consultation with key stakeholders.

9.3 What further action will we take?

We will play an influential role in the Triple Conference of the Parties in April 2019, where we are seeking treaty change in both the Basel and Rotterdam convention for tighter controls on plastic waste exports and improved compliance for the notification of data on harmful chemicals.

As part of the Ministerial High Ambition Alliance on Chemicals and Wastes, we will seek to raise the profile and increase global actions on chemicals and wastes in support of new governance arrangements under the post 2020 process.

We aim to actively promote the development of international indicators for chemicals and waste management through hosting an international workshop with the UN Environment World Conservation Monitoring Centre ahead of the next international meeting in September.

We are proposing to undertake a broad review of pesticides policy and will be working closely with all interested parties as we continue to develop our evidence base and policies; we will ensure that we maintain our high regulatory standards and environmental protections as we leave the EU.

10 Enhancing biosecurity

10.1 Context

Good biosecurity supports protection from animal and plant pests and diseases as well as invasive non-native species. Introduction and spread of these into our country can have great environmental and economic consequences. For example, the 2001 foot and mouth outbreak in farm animals, resulting in the slaughter of six million animals[48], had devastating effect on the rural economy and parts of the tourist industry.

[48] NAO, *The 2001 Outbreak of Foot and Mouth Disease* (2002) https://www.nao.org.uk/wp-content/uploads/2002/06/0102939.pdf

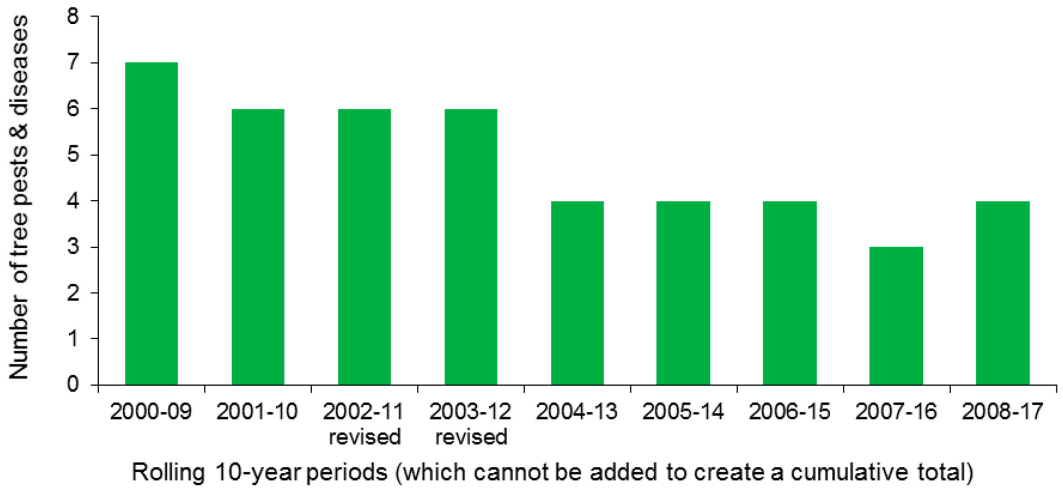
By strengthening biosecurity we can better protect the nation's animals, cultivated crops, wild plants, trees, forests, amenity plants, gardens and ecosystems from pests, diseases and invasive non-native species.

In order to do this we made the following key commitments in the 25 Year Environment Plan:

- Managing and reducing the impact of existing plant and animal pest and diseases; lowering the risk of new ones and tackling invasive non-native species.
- Reaching the detailed goals to be set out in the Tree Health Resilience Strategy of 2018.
- Ensuring strong biosecurity protection at our borders.
- Working with industry to reduce the impact of endemic disease.

Figure 6 shows that, since 2000, the number of additional tree pests and diseases becoming established in England has fallen from a peak of seven in the 10-year period 2000-09 to four in the most recent 10-year period (2008-17). We now have a UK-wide Plant Health Risk Register in place, to screen potential new threats and help prioritise actions against the most significant. There are over 1,000 entries on the register, with new ones being added every month. This process helps to direct the activities of government and industry, to reduce the risk of new incursions and outbreaks, while at the same time identifying low risk issues, avoiding focusing resources and attention where there would be limited benefit in co-ordinated actions.

Figure 2 - Number of additional tree pests and diseases becoming established in England within a rolling 10-year period, 2000-09 to 2008-17



Source: Forestry Commission

10.2 What progress have we made

We published our Tree Health Resilience Strategy in May 2018.[49] It sets out how we can all help to reduce the risk of plant pest and disease threats occurring and introduces four environmental goals to strengthen the resilience of our trees, woods and forests.

In collaboration with the sector, we have developed a National Action Plan to implement this strategy across England. For example, in 2018 we introduced restrictions on the import of most species of oak into England, to protect native trees from the threat of oak processionary moth. We also launched the 'Don't Risk It' biosecurity campaign in July 2018, to engage people on the importance of not bringing back plants, seeds and vegetables or flowers when travelling aboard.

In December 2018, Defra and Biotechnology and Biological Sciences Research Council launched a collaborative £17.7 million bacterial plant diseases research programme, which includes £4.85 million to improve methods of diagnosis and detection of *Xylella*, to identify factors that could lead to its spread, and to minimize the risk of the pathogen to the UK.[50]

We continue to deliver the GB Invasive Non-native Species Strategy (2015)[51] in order to protect natural capital in England from invasive non-native species. As part of this strategy we are promoting biosecurity through flagship Check, Clean, Dry and Be Plant Wise campaigns, delivering contingency responses to new species when they are detected (for the example the Asian hornet) and supporting the management of more widespread species.

To tackle animal diseases and the growing problem of the antibiotic resistance we have published the second UK One-Health Report.[52] This is a cross-government initiative that brings together UK data (2013-2017), on antibiotic resistance in key bacteria that are common to animals and humans, and isolated in meat at retail.

[49] Defra, *Tree health resilience strategy 2018* (2018) https://www.gov.uk/government/publications/tree-health-resilience-strategy-2018

[50] BBSRC, *UK-wide consortium to combat serious threat to plant health* (2018) https://bbsrc.ukri.org/news/fundamental-bioscience/2018/181205-pr-uk-wide-consortium-to-combat-serious-threat-to-plant-health/

[51] Defra, *The Great Britain invasive non-native species strategy* (2015) https://www.gov.uk/government/publications/the-great-britain-invasive-non-native-species-strategy

[52] HM Government, *UK One Health Report Joint report on antibiotic use and antibiotic resistance, 2013–2017* (2019) https://www.gov.uk/government/publications/uk-one-health-report-antibiotic-use-and-antibiotic-resistance-in-animals-and-humans

10.3 What further action will we take?

The Tree Health Resilience Strategy will directly inform the development of the new Plant Biosecurity Strategy which is expected to be published in 2020. This strategy will set out the government's approach to plant biosecurity, which focuses specifically on plant pests.

The recently appointed national Tree Champion will help promote safe biosecurity practice by encouraging planting right trees in the right places (more information in 'Thriving Plants and Wildlife' section).

We will maintain the GB alert system and respond to new incursions of high priority species.

Part two - Cross-cutting themes

Introduction

We are taking the opportunity of leaving the EU to transform environmental policy, with that policy better informed with a natural capital approach, and creating new incentives to make it easier for individuals, communities and businesses to make the right choices about the environment. We will reinforce these actions with a new statutory framework for green governance and a new approach to financing action. Through these and other actions, we will continue to influence the global environmental agenda and change behaviours to enable everyone to engage more productively with nature and the environment for a better future.

This section identifies the new approaches we are taking and provides more detail on what we have achieved to date and a look into the future to show how these cross cutting activities provide the framework for a coherent approach to our greener future that will enable us to achieve the aims of the 25 Year Environment Plan.

11 Hardwiring strong environmental action into legislation

The flagship Environment Bill will put environmental ambition and accountability at the very heart of government. It will be a major step forward for improving environmental standards as we leave the EU. It will help us make good on our commitment to leave the environment in a better condition than we found it. We published a draft Environment (Principles and Governance) Bill and supporting papers on 19 December 2018. The draft Environment Bill has undergone pre-legislative scrutiny with the Environment Food and Rural Affairs and Environment Audit Committee Committees. The government will respond in due course having carefully considered both committees' recommendations.

Since the Plan was published, this government has charted a bold course of action for the environment, including an ambitious Clean Air Strategy and Resources and Waste Strategy. The 25 Year Environment Plan builds on our Industrial Strategy and Clean Growth Strategy to transform productivity across the country and drive green innovation. The Environment Bill will prove decisively that as we leave the EU we can improve environmental protection, manage impacts from human activity, create a more sustainable and resilient economy, and enhance wellbeing and quality of life; and will also reinforce our reputation for world-leading environmental action.

The Bill will put in place a new statutory framework to:

- establish a world-leading green governance body, the Office for Environmental Protection, to hold government to account for adherence to environmental law and delivery of the 25 Year Environment Plan,
- introduce a set of environmental principles that will be used to guide future government policy making and lead us toward a greener future, and
- place the 25 Year Environment Plan on a statutory footing, making it a legal requirement for the government to have a long-term environmental improvement plan, with a regular cycle of monitoring, reporting, review and revision.

We are working towards the introduction of the full Environment Bill early in the second session of this Parliament. The Bill will include ambitious legislative measures to take action to address the biggest environmental priorities of our age: environmental governance and accountability, air quality, nature recovery, waste and resource efficiency, and water resource management.

Following publication of the Fisheries White Paper, we brought forward a Fisheries Bill which will provide a framework to enable us to deliver our ambition for sustainable fisheries management in the future including to continue to push towards further stocks being fished at maximum sustainable yield. The Bill sets out clear objectives to ensure that fisheries and aquaculture activities are environmentally sustainable in the long-term, and to take an ecosystems-based approach to fisheries management measures. It enhances accountability for delivery against these objectives by requiring the four fisheries administrations to publish a statutory joint fisheries statement setting out how they will pursue these objectives. The Bill also contains enhanced powers to manage fisheries activity for conservation purposes.

12 Funding, financing and incentivising improvement in natural capital

The 25 Year Environment Plan signalled a significant increase in our ambition for the natural environment. Delivering the plan requires an approach which uses public funds, together with policy and regulatory reforms, to clarify and amplify the incentives for additional investment from other sources, including the private sector.

A key pillar of this approach is our plan to replace the system of payments under the EU's Common Agricultural Policy with a new Environmental Land Management System based on payments for environmental public goods. Working with public and private sector partners, we will design environmental land management to operate in a way that supports innovative approaches and can facilitate complementary private sector investment.

Public funding will continue to play an important role in protecting and enhancing our natural environment as we leave the EU and transition to new arrangements. The government has committed to ensuring continuity of funding for UK projects currently funded under the LIFE programme.

We are also taking action to stimulate the market for natural environment investment. Defra is continuing to work with stakeholders to explore the potential for a Natural Environment Impact Fund, to accelerate the development of a pipeline of projects that can improve the natural environment and provide a financial return on investment. Such a fund could channel support towards technical assistance, and also provide a mechanism for 'blending' finance from public and private sources to drive investment.

The forthcoming Environment Bill will introduce a mandatory biodiversity net gain requirement for development. While the primary objective is to drive the avoidance of environmental impacts and to encourage the delivery of wildlife habitats in development sites, this system should also stimulate the development of markets in habitat creation which will help to ensure that developers are able to fulfil net gain obligations off site when this is necessary. This requirement will send a clear signal to landowners, conservation organisations and habitat creation businesses that a stream of funding will be established to support investment in this part of the economy and the delivery of strategic environmental objectives.

Unlocking finance at the necessary scale will require access to the knowledge and resources of mainstream financial institutions. This is why we set up a Green Finance Taskforce to bring together some of the country's brightest minds to produce recommendations on how to accelerate the growth of green finance. Following the taskforce's report, government is developing a Green Finance Strategy which will be launched later this year – to set out our green finance objectives and ambitions, and to outline our strategy for how we will achieve them.

13 Global leadership on the environment

As much as the 25 Year Environment Plan sets out our vision to improve the environment within a generation in England, we must also acknowledge the importance of our role in enhancing the global environment. As the UK helped secure the Paris Agreement in 2015, we must demonstrate global leadership in our response to the threat of climate and its significant impacts on our ecosystems.

Last year the Intergovernmental Panel on Climate Change reported on the impacts of climate change, including the consequences for the natural world.[53] The Intergovernmental Panel on Climate Change's report makes clear that the 1.5°C warming limit is still within our reach, if all nations act together to drive urgent and ambitious action. Should this limit be reached or exceeded, this increases the risks of long lasting, and irreversible changes, including ecosystem loss.

13.1 International leadership in tackling climate change and improving international biodiversity

We are serious about our contribution to climate action. Since the Intergovernmental Panel on Climate Change's report we have sought advice from the Committee on Climate Change on the implications of the Paris Agreement for the UK's long-term emissions reduction targets. The CCC published their seminal report on 2nd May, recommending that the UK legislate for a net-zero emissions target by 2050 at the earliest opportunity. We look forward to studying this comprehensive, ground-breaking report, and will respond in a timeframe which reflects the urgency of this crucial issue. As a committed, ambitious and effective leader in tackling climate change, we have offered to host the 26th Conference of the Parties to the UN Framework Convention on Climate Change in 2020 and are dedicated to ensuring it is a success.

The UK is also co-leading on climate resilience at the UN Secretary General's Climate Change Summit in September. This is an opportunity to drive transformational change in the way we approach resilience and adaptation, supporting people and planet to adapt to, and cope with, climate shocks and stresses. We are co-sponsoring and working with the Global Commission on Adaptation, which aims to deliver a flagship report to the Summit, with evidence, analysis and recommendations on global adaptation to climate change. The Summit takes place at a critical moment to accelerate global climate ambition, ahead of key meetings of the UN Convention on Biological Diversity and the UN Framework Convention on Climate Change, which presents an opportunity for stronger integration of natural environment and climate agendas, including promotion of nature based solutions to climate change.

Under the UN Convention on Biological Diversity the UK is actively working on the development of a new global biodiversity framework for the post-2020 period. The UK is committed to leading action globally on halting the loss of biodiversity and securing a new global framework that is ambitious and transformational. We will develop national voluntary commitments to underpin our global ambition and have already been engaging with stakeholders, particularly business, who will be key to driving the changes needed. The post-2020 framework will be adopted at a Conference of the Parties to the UN Convention

[53] https://www.ipcc.ch/2018/10/08/summary-for-policymakers-of-ipcc-special-report-on-global-warming-of-1-5c-approved-by-governments/

on Biological Diversity in China, in 2020. In the Spring Statement the Chancellor announced a new global review to assess the economic value of biodiversity. The review will be led by HM Treasury and chaired by Professor Sir Partha Dasgupta, Emeritus Professor of Economics at the University of Cambridge.

The UK is also committed to global leadership in tackling the Illegal Wildlife Trade. We convened the fourth international Illegal Wildlife Trade Conference in London, bringing together global leaders in a coalition against Illegal Wildlife Trade, and alongside 64 other countries the UK declared significant political and practical commitments to tackle Illegal Wildlife Trade. The UK is investing more than £36 million between 2014 and 2021 to take action to prevent wildlife crime. We are working to strengthen partnerships that can tackle illegal wildlife trade across and beyond borders, deploying a British military counter-poaching taskforce, developing ways to eradicate the market for Illegal Wildlife Trade products and supporting international action to tackle Illegal Wildlife Trade from all angles through the Illegal Wildlife Trade Challenge Fund.

Our landmark Ivory Act will establish one of the world's toughest ivory bans. As we implement this new legislation, we will continue to show global leadership by encouraging other nations to take further action on ivory. We will support the activities of the Ivory Alliance 2024, a global campaign to reduce demand for ivory products, close domestic ivory markets and strengthen enforcement.

Formal negotiations begin this year. Through these and other international meetings, the government will promote ambition, highlighting UK actions to deliver transformational change, and work with key partners to influence the international agenda to secure a new global framework that can address biodiversity loss. This included taking part in at official's level at an OECD workshop in February, a regional consultation in March, and at ministerial level the Canadian Nature Summit in April. Ministers and officials will also attend the Trondheim Biodiversity Conference in July.

Defra will also engage UK scientists and stakeholders in regular dialogue to develop our position on the new strategy, building on evidence in the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services' Global Assessment of Biodiversity to be published this spring, in which the UK plays a leading role.

13.2 Improving the health of the ocean

We have been promoting stronger conservation and management measures for vulnerable species within the Regional Fisheries Management Organisations. This includes pressing for increased protection against shark finning and sustainable catch limits. We also continue to be a leading voice in the International Whaling Commission, taking on a greater role in functioning of the organisation at last year's biennial meeting. We have also increased our engagement within the International Coral Reef Initiative forum while developing a network

with Overseas Territories to help support coral reef management and conservation, and established the European hub of the Global Ocean Acidification Observing Network to help improve our understanding of ocean acidification and its impacts on ecosystems.

The UK is promoting a trebling of internationally-agreed targets for ocean protection, so that one third of the world's ocean should be protected by 2030. We signed the Because the Ocean Declaration and the Brussels Declaration to emphasise the importance of integrating the ocean into tackling climate change and continues to progress international work on ocean resilience. We have backed plans by Ascension Island to designate over 150,000 square miles of its waters as a fully protected 'no-take' Marine Protected Area – closing the off-shore area to any fishing activity and safeguarding important marine habitats for future generations. When protected, the new no-take zone around Ascension Island would bring the total percentage of Marine Protected Areas in the UK's territorial waters, Overseas Territories and Crown Dependencies to over 50%.

Recognising that reducing plastic pollution in our ocean requires global action, we launched the Commonwealth Clean Ocean Alliance in April 2018, which we co-lead with Vanuatu. The Commonwealth Clean Ocean Alliance encourages its 25 member countries to take steps to eliminate avoidable single-use plastics, significantly reduce single use plastic carrier bags by 2021 and implement a ban of microbeads in rinse-off personal care products by 2021. We have been championing action to protect the world's oceans from plastic pollution through a support package worth up to £70 million to tackle plastic pollution in developing countries and boost global research.[54]

13.3 International strategy and official development assistance

We remain committed to providing £5.8 billion in International Climate Finance between 2016 -2020. Funding is being used to support developing countries reduce emissions and build resilience to the impacts of climate change, including the world's most biodiverse forests and supporting sustainable land use. In November, we announced a new project investing £13 million of International Climate Finance in mangroves restoration in countries in Central and South America and the Caribbean, such as Jamaica and Colombia.

The government also pledged up to £250 million to the Global Environment Facility over the next five years to tackle major environmental challenges including climate change, biodiversity loss, and natural resource degradation.

[54] The funding package includes up to £10 million for a technical assistance facility, £25 million for a Commonwealth Marine Plastics Research and Innovation Framework, £6m for a Commonwealth Litter Programme, £6 million for waste pilots, £2.4 million investment in the Global Plastics Action Partnership and a Young Leaders Plastic Challenge Badge project.

Through our competitive grant schemes, such as the Darwin Initiative, we continue to support a wide range of projects tackling biodiversity loss, climate change and wildlife crime, and promoting sustainable development in developing countries.

13.4 Enhancing sustainability and tackling deforestation in supply chains

We consulted on proposals to establish a Global Resource Initiative at Green GB Week in October 2018 and are due to run a Taskforce, starting in May/June 2019 to present recommendations back to government by the end of the year. The Global Resource Initiative aims to identify actions across supply chains that improve the sustainability of imports and reduce deforestation, complementing work on forest governance and commodities including sustainable timber and will consider opportunities to galvanise wider international impact on nature and climate change.

We also hosted a number of events with external stakeholders (e.g. Chatham House, Illegal Wildlife Trade and most recently through Department for International Development's Forest Governance Markets and Climate programme) to drive governance improvements and innovation in forestry and land management.

14 Supporting strong local leadership and delivery

As set out in the 25 Year Environment Plan, at present many organisations and partnerships pursue their own environmental objectives, across different areas and boundaries. In some places, there is good coordination and we want to encourage even greater join-up and integration to maximise opportunities to improve our environment.

At a local level, we want environmental effort to be guided by both the goals set out in the 25 Year Environment Plan and local needs and priorities, as well as being more integrated and efficient. This will require local authorities, government agencies, water companies, land owners and managers, environmental organisations and many others whose decisions affect the environment to work effectively together; coordinating activities and targeting investments to deliver the greatest benefits for the environment and for people.

Local natural capital planning - the process whereby all interested parties work together to develop a single, whole environment improvement plan for their areas - has the potential to make a significant contribution to delivering the 25 Year Environment Plan, as well as other government priorities including housing and infrastructure. Developed in the right way, local natural capital planning will help better direct government's resources (for example through a future environmental land management scheme). It will also help to channel private sector investment in the environment (for example through biodiversity net gain) in a more strategic and effective way.

To enable this, government will:

- Support lead agencies or conveners to lead local natural capital planning, recognising the uniqueness of local circumstances; and
- Develop a relevant, accessible and transferrable knowledge base so that local areas can themselves better identify and strategically plan for environment improvements in line with the 25 Year Environment Plan goals.

14.1 Progress to date

Since publication of the 25 Year Environment Plan, we have focused on the following areas:

14.1.1 Pioneer Projects

In 2016, the government set up four pioneer projects to inform the development and implementation of the 25 Year Environment Plan. Over the last year, the projects have been supporting the development of some key policies from the plan whilst continuing to deliver some innovative activities, with each focusing on specific geographical issues and priorities.

All four pioneers have continued to explore the use of natural capital in decision making and are directly informing how we approach local natural capital planning. The pioneers have taken differing approaches with the Devon catchment pioneer continuing to trial an innovative approach for agreeing shared local priorities whilst the Greater Manchester urban pioneer has created a natural capital account; both of these are developing into strategies for increasing investment in natural capital where it is most needed. Meanwhile the Cumbria catchment pioneer is trialling the use of natural capital in community engagement and is piloting a trading platform to link private finance to land-based activities that protect and build natural capital in the Eden Valley and the marine pioneer has undertaken a natural capital assessment that will form the basis of a marine local natural capital plan.

Other highlights from across the pioneers include both the catchment pioneer and the landscape pioneer taking leading roles in tests and trials for new environmental land management systems, the urban pioneer acting as a front runner for developing net gain policy and the marine pioneer identifying and testing potential new funding sources for the marine environment. The pioneers will conclude in March 2020, with focus shifting to capturing the lessons learned during their final year. It is anticipated that some work in each of the pioneer areas will continue beyond March 2020, which will aid their gradual transition into business as usual.

14.1.2 Planning for natural capital in the Oxford to Cambridge Arc

The government has started a local natural capital planning project in the Arc and is working closely with local partners including local authorities, Local Enterprise Partnerships and Local Nature Partnerships to co-design this new approach. The project seeks to embed natural capital thinking in growth plans for the area, delivering on the joint commitment between Government & Arc Local Authority and Local Enterprise Partnerships Leaders Group to explore natural capital thinking throughout our approach to the Arc. With cross-government funding of £1.2 million from Highways England, Homes England and Defra and joint working across government, this project demonstrates government's commitment to delivering an overall improvement in the environment as part of and alongside development across the Arc.

A dedicated project team, with support from local partners, will draw together the most relevant data to underpin a collaborative natural capital approach to planning and development across the Arc. This will provide a template for local natural capital planning more widely. In addition we will work with a wide range of partners including Local Enterprise Partnerships and Local Nature Partnerships to explore opportunities for delivery of the 25 Year Environment Plan alongside local priorities.

14.1.3 Integrating delivery across the Defra Group

The 25 Year Environment Plan led to the Glover Review of National Parks and Areas of Outstanding Beauty, which is examining the role National Park Authorities and Area of Outstanding Beauty organisations can play - whether as convenors, brokers, or delivery partners - in achieving the government's priorities - for example in recovering nature, connecting more people with the natural environment, and delivering an Environmental Land Management System.

14.1.4 Mainstreaming natural capital into local economic growth

Local Industrial Strategies, currently being developed by Mayoral Combined Authorities and Local Enterprise Partnerships, are another critical part of the environmental delivery landscape. Investment in natural capital can make a significant contribution directly to economic growth through land-based sectors of the economy and improving resilience of infrastructure, but also indirectly by supporting people's health, wellbeing and productivity. We are working across government to make sure natural capital investment opportunities are recognised in Local Industrial Strategies.

14.1.5 The Catchment Based Approach

Catchment Based Approach was piloted in 2011 and subsequently extended to cover the England and cross-border catchments in 2013. It is an inclusive, civil society-led initiative

that works in partnership with government, Local Authorities, Water Companies, businesses and more. There are now over a 100 partnerships working to maximise the natural value of our environment with over 14,000 participants. Its work aims to deliver a wide range of benefits including improvements to water quality, enhanced biodiversity, reduced flood risk, resilience to climate change, more resource efficient and sustainable businesses and health and wellbeing benefits for local communities. In its most recent year of operation Catchment Based Approach secured £6.50 from non-government sources for every £1 invested by government, created 2,835 hectares of habitat and engaged with 6,100 farmers.

14.1.6 Local Nature Partnerships

Local Nature Partnerships were set up in 2012 to bring together stakeholders in area for the benefit of nature, people and the economy. An element of this is advocating the natural capital approach in various decision making processes at a local level, including Local Industrial Strategies. For example, close working between the Local Nature Partnerships and the Local Enterprise Partnerships in Cumbria has led to the Local Enterprise Partnerships recognising the role of and need to invest in natural capital in their draft Local Industrial Strategy. Similarly, Cornwall and the Isles of Scilly Local Nature Partnerships have helped mainstream their Environmental Growth strategy into Vision 2030, the Local Enterprise Partnership's investment plan, and are following a similar process with the Local Industrial Strategy. Local Nature Partnerships are also a valuable source of knowledge on natural assets in the area, with many having undertaken mapping exercises.

15 Inspiring action

Improving our environment is about much more than spending and regulation. It is also about changes in norms and behaviour and inspiring people and communities to lead change.

15.1 Year of Green Action

Year of Green Action is about connecting people with the natural world and inspiring them to take action for its conservation. The year will provide a focal point for businesses, charities and individuals to learn more about their environmental impact and the action they can take to reduce it. In 2018 we set up a website and launched a social media campaign to raise awareness of the year's aims: to protect, enhance and connect with the natural environment. In January 2019, the Secretary of State officially launched the initiative with a call to action for young people, businesses and government to play their part in leaving the natural environment in a better state for future generations. Through our partnership with the #iwill4nature campaign, we are giving young people an opportunity to demonstrate environmental leadership.

In February, at a parliamentary reception for businesses to pledge their support to Year of Green Action, we announced the first ten Year of Green Action ambassadors who have agreed to extend the reach of the year through personal appearances and social media.

Throughout 2019, we will be working with partners to promote green action opportunities so that people from all backgrounds can get involved in projects to protect and enhance the natural environment. The Year of Green Action website[55] will showcase events, volunteering opportunities and case studies illustrating the aims of Year of Green Action to stimulate more green action. Our Year of Green Action ambassadors, and the youth ambassadors of the #iwill campaign, will be attending partner-led events themed around policy areas of the 25 Year Environment Plan to promote wider engagement with the natural environment. We will be sponsoring Year of Green Action awards to recognise the achievements of community groups and volunteers, supporting initiatives such as Clean Air Day, Bees' Needs Week and the Bees' Needs Champions Awards, Loneliness Week and Green GB Week, and designing a demonstration garden to illustrate the actions individuals can take to contribute to the 25 Year Environment Plan goals of thriving plants and wildlife, biosecurity, enhanced engagement with the natural world and the sustainable use of natural resources.

16 Measuring progress

Our Plan and our actions set out clear intent, but our success will ultimately be measured by our ability to achieve positive environmental outcomes. A key commitment in the 25 Year Environment Plan was to develop a comprehensive set of outcome indicators, which collectively describe environmental change as it relates to the ten goals in the 25 Year Environment Plan.

The new 25 Year Environment Plan outcome indicator framework[56], published alongside the progress report, presents a powerful new way to measure changes to our environment. This will ensure transparency and consistency in how we chart our progress and help us identify where intervention is most urgently needed to address environmental challenges.

The framework draws together a comprehensive suite of measures for the state of our natural capital assets, the pressures acting on them and the benefits they provide. The framework is made up of 66 indicators organised in ten broad themes related to the goals in 25 Year Environment Plan.

The outcome indicators are designed to measure what is important, rather than what we already measure. Many of the indicators require further development in order to become fully operational. We are working on these and some will be ready in the short term (within

[55] https://www.iwill.org.uk/tag/year-of-green-action/
[56] https://www.gov.uk/government/publications/25-year-environment-plan

the year) others will require further research and development before they are fully operational.

We can draw on established data sets for some indicators but there is a need to develop measures for those indicators were there is no established dataset. As part of this, we have asked the Natural Capital Committee to provide advice on developing cost effective approach to an environmental citizen science project that integrates existing data, including the outcome indicator framework, and increases citizen engagement with the environment.