

Department for Environment, Food and Rural Affairs

**Measuring environmental change – draft
indicators framework for the 25 Year
Environment Plan**

Draft for discussion

December 2018



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Section A: Introduction

Summary

The government launched the 25 Year Environment Plan in January 2018 and the Draft Environment Bill will make it a statutory duty for the Secretary of State to have such a plan for improving the natural environment. A key commitment in the plan was to engage widely as we develop a comprehensive set of indicators, which collectively describes environmental change as it relates to the ten goals in the 25 Year Environment Plan. Additionally the Draft Environment Bill requires the Secretary of State to obtain relevant data to monitor whether the environment or aspects of it are improving in accordance with the plan. This document sets out a draft framework of indicators for the 25 Year Environment Plan as the basis for wider discussions with experts and stakeholders. We are seeking views on the framework as well as the specific indicators proposed.

The draft framework includes a set of 65 indicators which aim to track changes in the environment system as a whole covering: the state of environmental assets (including air, water, land, seas and wildlife); the main pressures being placed on them (for example pollution, or plant disease); and, the benefits people receive from the environment. This is in line with the concept of natural capital – defined as the ‘elements of the natural environment which provide valuable goods and services to people such as clean air, clean water, food and recreation’¹. Drawing from this broader set of 65, we have identified 15 headline indicators aimed at providing an overall summary of change for a wide audience. The indicators, like the 25 Year Environment Plan itself, have a geographical scope of England, and UK interests internationally, though in some cases data are only available for the UK.

Our draft set of indicators is presented in Section B. The proposed headline indicators are described in Section C. Further technical details about the indicators are presented in Section D.

We wish continue our discussions with stakeholders and experts to test and improve this draft framework and to ensure it is cost-effective. We intend to produce a first report on the finalised framework in early 2019, noting that the framework will need to be reviewed and updated regularly to reflect the latest thinking and measurement techniques.

¹ [The state of natural capital: towards a framework for measurement and valuation, 2013, Natural Capital Committee's first state of natural capital report](#)

Why is such an indicator framework needed?

It is the government's ambition to protect and improve the environment. We need a transparent, comprehensive framework that shows how the environment is changing and whether it is improving over time.

The Draft Environment Bill puts this into law establishing duties upon the Secretary of State to:

- have an environmental improvement plan
- obtain data to monitor improvement in the environment
- report annually on actions taken and changes in the environment
- review and if necessary revise the plan at least every 5 years

The indicator framework contributes to the second and third of these duties and is designed to allow us to identify where progress is being made and where more action may be needed, and to show how we are delivering on the duties in the Draft Environment Bill and other domestic and international commitments. The framework addresses the longer term changes in the environment. Actions taken will be reported separately in the annual report of the plan. Although the link between actions taken and environmental change is often not direct or immediate, the framework will help assess effectiveness of these interventions. In addition, the framework will help inform the decisions we all take and promote action by everyone.

What are metrics and indicators?

We use the term '*metrics*' to refer to measurements of different aspects of the environment and the way we manage and use it. There is a huge range of such measurements available and possible in different places and over different timescales. Such metrics vary from rigorously defined and regularly updated National Statistics to results of one-off surveys. The task, therefore, is to narrow down the information we wish to use into a relatively small number of reliable metrics that can be used as indicators to support policy, management and communications in regard to the 25 Year Environment Plan and satisfy the duties in the Draft Environment Bill.

We use the term '*indicators*' to summarise the key messages about changes in aspects of the environment that people can relate to and rely upon. In our current proposals, we refer only to "indicators". Many of these (such as an indicator on water quality) will be based on a one or more very specific "metrics" (e.g. the concentrations of particular chemicals in that water), but others (e.g. relating to landscape beauty) are currently more descriptive. There is ongoing work within and outside government to improve our measurement and understanding of the environment and we will seek to make the most of such advances in making our assessment of change ever more robust and complete.

We have defined two types of indicators in the draft framework. Around 65 ‘*system indicators*’ track changes in specific aspects of the environment relating to the goals and targets in the 25 Year Environment Plan. We have brought some of these together in small bundles to create 15 ‘*headline indicators*’ with the aim of producing a more accessible, overall summary. For example, the headline indicator on changes in air quality includes two system indicators: one that tracks the change in concentration of fine particulates in the air (PM_{2.5}) that can have adverse health impacts; the other tracks the area exposed to damaging levels of ammonia (NH₃). In this case, the system indicators use metrics that are underpinned by well-established survey protocols and monitoring programmes.

Bundling together metrics allows us to cover more aspects of environmental change in a manageable number of indicators. It can therefore allow us to give a more comprehensive assessment of change. However, complex indicators can be difficult to interpret, and could even hinder the ability for people to see how individual aspects of the environment that they care about are changing. The draft framework aims to be as transparent as possible about the individual metrics that lead to an assessment of change in the indicator, and striking the right balance between comprehensiveness and clarity will be a key factor in finalising this framework.

How will the framework be used? How will indicators be assessed? How do indicators relate to targets and reporting commitments?

The indicator framework aims to provide reliable, accessible and objective information about how the environment is changing. It will help to answer questions, including:

- have key aspects of our environment improved?
- have the key pressures on our natural assets changed?
- how have our natural assets and the benefits they provide changed?
- how much progress has been made towards the goals of the 25 Year Environment Plan?

The indicators will be used to check whether the environment is improving as required by the Draft Environment Bill along with progress towards the long-term vision of the 25 Year Environment Plan. Using a natural capital approach, the framework focuses on the outcomes and goals that we have set out to achieve which can be grouped under: 1) reducing pressures on the environment; 2) improving the state of environment assets; and 3) increasing the benefits that we get from those assets.

All the indicators that we have proposed are intended to show trends over time which can be assessed statistically as positive/improving, negative/deteriorating, or no change/uncertain, using a simple ‘traffic light’ system. The set as a whole will provide an overview of progress towards the goals of the Plan and capture long term changes in the

condition of assets, showing variation in progress between goals and between different assets. The headline indicators aim to simplify this assessment by presenting a small number of indicators together to address 15 key themes linked to the goals in the 25 Year Environment Plan. All the individual indicator assessments are retained in the headlines to ensure transparency. Overall, the framework will inform future policy development.

The indicators will track change over time. They do not stipulate the level of ambition or targets for any changes.

In future years it will be possible to track change from a baseline of 2018. Where suitable time data series are available, we will assess both long term (>5 year) and recent (latest 5 year) trends. Data series of less than five years are likely to show year-to-year fluctuations that are difficult to assess.

We currently have many obligations to report to the European Commission on different parts of the environment system through our adoption of EU Directives². These monitoring and reporting commitments and associated targets will transfer to UK law on EU Exit. There is a well-developed system of reporting through the European Environment Agency for European-derived targets and we have considered these reporting obligations in the development of the indicators framework.

We also have a range of international commitments that go beyond the EU. For example, the Office for National Statistics is responsible for reporting the country's data to the United Nations to monitor progress towards achieving the Sustainable Development Goals. We are continuing to analyse these reporting commitments so that we can align them where necessary with this framework.

What geography does the draft framework cover?

The framework is designed to be flexible to use in different ways. The headline indicators, as described above, will be used to assess overall progress towards the goals of the 25 Year Environment Plan (see Fig 1) and whether or not the environment or aspects of it are improving as required by the Draft Environment Bill. But the system indicators can also be used in different combinations for other purposes. For example, different sets of indicators can be used to make assessments of the condition of different natural capital assets such as: air, water and seas; and different land types such as; woodland, farmland, urban areas and semi-natural habitats (see Fig 2).

The indicators have been developed primarily for national (England) level reporting. However, in line with the 25 Year Environment Plan, we have included the role of the UK internationally (e.g. in our Overseas Territories). It is envisaged that some of the indicators will be scalable to work at regional or local level using the same data as collected for

² European Union: Regulations, Directives and other acts, Accessed 19/07/2018, https://europa.eu/european-union/eu-law/legal-acts_en

national reporting. Some will be developed locally using local data. In some cases trends can only be assessed using data at a UK level. This document does not pre-empt discussions with the Devolved Administrations on areas where common frameworks will need to be retained in the future. The geographical scope of the indicators is shown in Section D.

Are the indicators the only way progress on the 25 Year Environment Plan will be assessed?

The indicators are not the only way government will evaluate progress on the 25 Year Environment Plan. We will also:

- monitor and report on progress against our actions. The 25 Year Environment Plan has around 230 different actions that government has committed to deliver. There is a separate reporting framework for these actions which include, where appropriate, proposals for performance measures. The Draft Environment Bill requires the Secretary of State to produce an annual report which will describe what has been done to implement the plan. This report must be laid before Parliament and published
- undertake evaluation of specific policies following HM Treasury guidance as set out in the 'Magenta Book'³
- arrange for comprehensive assessments of natural capital to take place on a roughly 10 year cycle to update the UK National Ecosystem Assessment⁴ that was completed in 2011

The Draft Environment Bill also establishes a new body, the Office for Environmental Protection. One of the duties of this body is to assess progress made against the environmental improvement plan. This body will produce a progress report following each of the government's annual reports, this will also be laid before Parliament and published.

The draft framework presented here focuses on environmental outcomes that can be influenced to some degree by our actions: the state of our natural capital assets, their benefits and the key pressures acting on them. The big 'external drivers' which affect these outcomes including, for example: the global economy and security; population growth and migration; emergent diseases, technological advances and climate change are relevant but we do not propose to assess these as part of the 25 Year Environment Plan indicators framework. Information regarding external drivers will nevertheless be important in assessment of the indicator trends.

³ [Magenta Book: Guidance for evaluation, 2011, HM Treasury](#)

⁴ [UK National Ecosystem Assessment \(2011\) The UK National Ecosystem Assessment: Synthesis of the Key Findings. UNEP-WCMC, Cambridge.](#)

How have we approached developing the draft framework?

Over the last 10 months, technical, policy and delivery experts from across the Defra group have worked with stakeholders and external experts to identify an initial set of around 65 system indicators and 15 headline indicators. The draft framework is a mix of indicators that are either already published or at an advanced stage of development (77%) as well as a number (23%) of metrics which need further development. Many of those which are already available relate to existing policy and regulatory frameworks. For further details see Section D.

In developing these proposals we have considered the following criteria:

- which combination of indicators best describes how our natural capital assets and the environment as a whole system are changing
- how to best to capture and summarise the environmental changes that matter most to people
- how to summarise assessments of change in individual indicators and bundles of indicators bearing in mind their different characteristics
- how to make the information accessible to the widest possible audience
- how to make the best use of existing investments and monitoring programmes, including data needed for reporting on existing international commitments
- which indicators are capable of detecting important changes over short to medium (1-6 year) time periods that are amenable to policy interventions
- scalability between national and local levels
- statistical robustness, operability and cost-effectiveness
- stability over time while allowing for innovation in how the environment can be measured (for example, new technologies)

We will continue to test and review our indicator proposals, as well as any other proposals from stakeholders, against these criteria. It is quite feasible that the indicators and underlying metrics that eventually emerge from this process will be different from the ones which we have proposed here. In line with the new code of practice for statistics we will continue to engage with end-users.

Technologies for monitoring and assessing change in the environment are advancing rapidly and offer new cost-effective methods (e.g. earth observations, DNA methods, citizen science/mobile apps, new sensor technologies). Furthermore, over the next 25 years we can expect that new issues and policy priorities will emerge for which new indicators may be required. The indicator framework will be kept under regular review so that it continues to be relevant and provide the best and most cost-effective ways of assessing progress.

What does the draft framework look like?

The framework is composed of a set of around 65 system indicators and 15 headlines.

The system indicators are intended to provide a minimum set of measures covering all key aspects of the environment. Some of them relate to specific outcome targets in the 25 Year Environment Plan so that progress towards these commitments can be assessed. Others relate to more synoptic assessments of the condition of natural capital assets.

The headlines are each made up of a subset of the system indicators, with 1-4 indicators per headline. The headlines relate to the 10 goals within the 25 Year Environment Plan (see Fig 1), with two additional headlines for our contributions to protecting and improving the global environment.

The system indicators can also be mapped to our natural capital assets so that an assessment can be made of the condition of the assets and the benefits they provide (see Fig 2).

Further details are provided in the sections that follow:-

Section B provides a list of all the proposed indicators.

Section C provides a description of each headline.

Section D provides a short technical summary of each of the system indicators

Figure 1 Diagram showing the linkages between the 10 goals of the 25 Year Environment Plan and the draft Indicators.

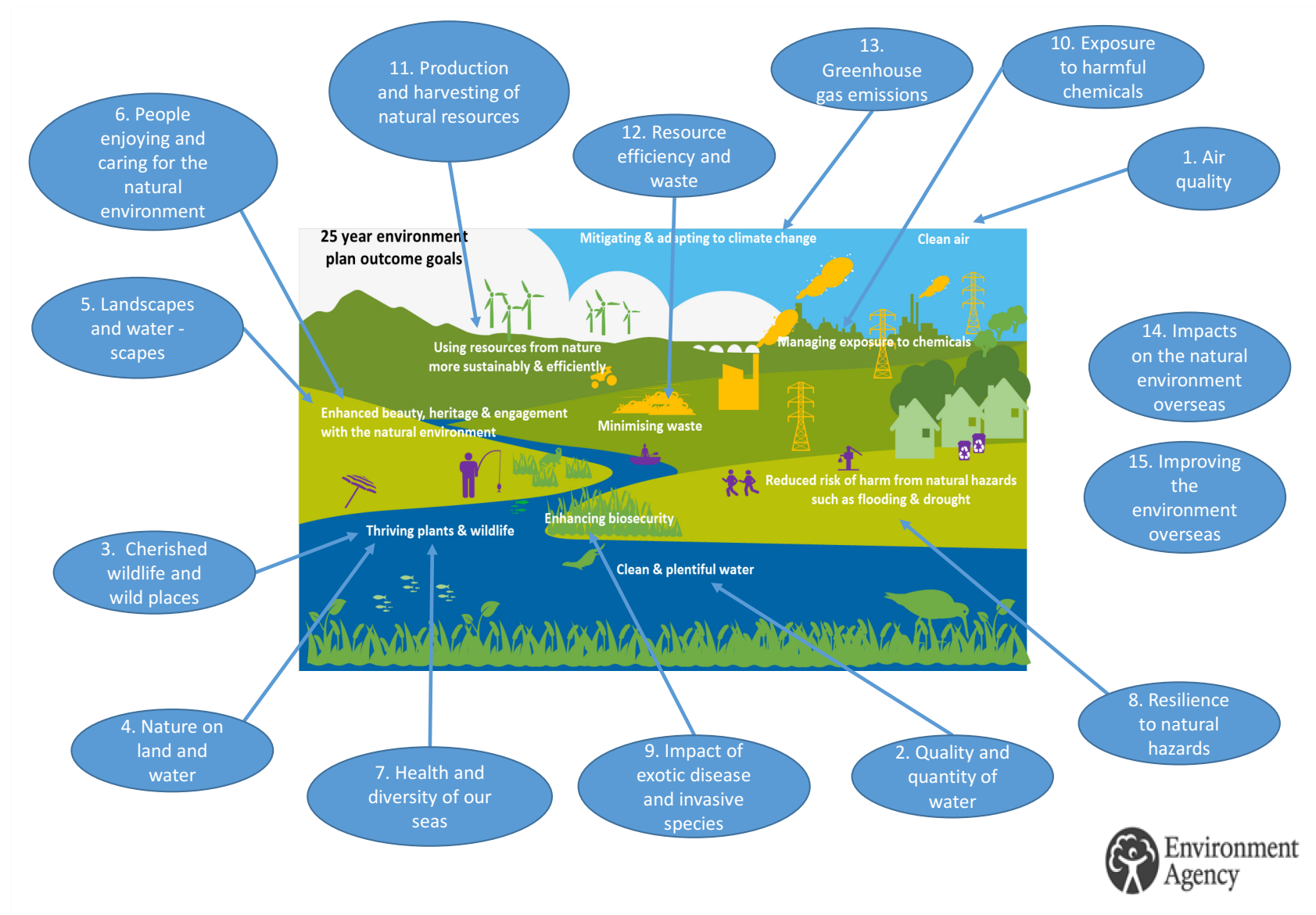
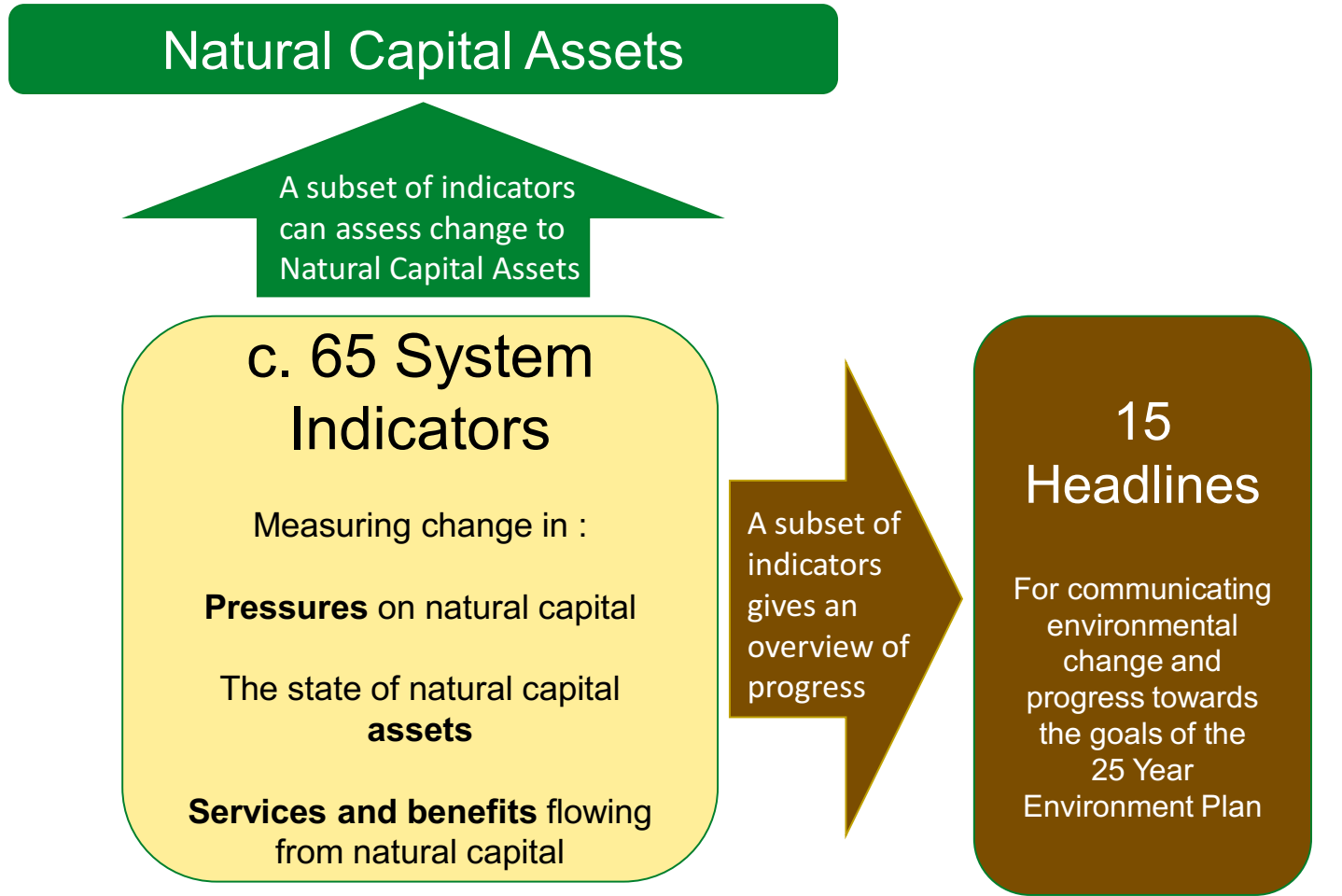


Figure 2 Schematic representation of the draft indicator framework.



Questions for discussion and next steps

We are publishing the draft indicators framework to set out our initial proposals to enable wider discussions with stakeholders about how to improve it. We are particularly interested your views on:

1. Whether the proposed framework describes the environment in a meaningful way;
2. Potential gaps in the headline indicators and / or system indicators and how to fill those gaps;
3. Whether the overall number of headline and system indicators is appropriate. Are there too many, too few?
4. The approach to bundling information in the indicators. Is it better to combine multiple data sources within summary indices or to be more selective about which data to present and assess?
5. Data that you possess which is relevant to the framework and could be shared to update any of the proposed indicators;
6. How you might use the framework and which aspects of it you see as being particularly important; and
7. The balance and scalability between local and national levels.

How to respond

We invite responses to be submitted by email to 25YEPindicators@defra.gsi.gov.uk.

We will consider any comments received by 25 January 2019 in developing the indicator framework prior to its publication with the annual report of the 25 YEP in early 2019. Any comments received will also inform plans for the further development of indicators following publication of the framework.

Confidentiality and data protection

This consultation document and consultation process have been planned to adhere to the Consultation Principles issued by the Cabinet Office.

Representative groups are asked to give a summary of the people and organisations they represent and where relevant who else they have consulted in reaching their conclusions when they respond.

Information provided in response to this consultation, including personal data, may be published or disclosed in accordance with the access to information regimes these are primarily the Environmental Information Regulations 2004 (EIRs), the Freedom of Information Act 2000 (FOIA) and the Data Protection Act 2018 (DPA). We have

obligations, mainly under the EIRs, FOIA and DPA, to disclose information to particular recipients or to the public in certain circumstances.

If you want the information that you provide to be treated as confidential, please be aware that, as a public authority, the Department is bound by the Freedom of Information Act and may therefore be obliged to disclose all or some of the information you provide. In view of this it would be helpful if you could explain to us why you regard the information you have provided as confidential. If we receive a request for disclosure of the information we will take full account of your explanation, but we cannot give an assurance that confidentiality can be maintained in all circumstances. An automatic confidentiality disclaimer generated by your IT system will not, of itself, be regarded as binding on the Department.

Section B: List of indicators included in the draft framework

The following two tables list all of the proposed indicators for the 25 Year Environment Plan. Table 1 lists the indicators that are included within the headlines. Table 2 lists the other indicators that are part of the environment 'system' but are not included in the headlines. The tables give a unique identification number (ID) for each indicator (prefix 'H' for indicators included in headlines and 'S' for other system indicators). Table 1 also provides a cross reference between the headlines and other related system indicators in Table 2. The type of indicator is categorised within a natural capital framework as either a 'pressure' acting on natural capital assets, or an 'asset' condition, or as a 'service or benefit (S/B)' provided by natural capital assets. The 'availability status' is categorised on a scale of 1-6 as shown in Box 1. The last column shows whether the indicators is relevant to specific outcome targets included the 25 Year Environment Plan. Further details of each of the indicators are provided in Section D.

Box 1 Assessment of the availability status of the proposed indicators

- (1) Ready to go. Already published, current, update process in place, continuing data stream.
- (2) Ready to go by December 2018. Analytical methods and data available. Resources in place to deliver.
- (3) Ready to go by December 2018. Analytical methods and data available. Minor additional resource required to deliver.
- (4) Further development, quality assurance and/or review work required but could deliver by December 2019. Good understanding of methods and data available. Additional resources may be needed.
- (5) Significant develop required not likely to deliver by December 2019. Further research needed to explore options and/or new data collection. Significant additional resources needed
- (6) Ready to go as an interim indicator until preferred indicator has been developed

Table 1 List of headline indicators for the 25 Year Environment Plan (25 YEP)

Headline	ID	Indicator title	Type	Availability status	Indicator is relevant to a 25 YEP target (Y/N)
Air quality	H1	Concentrations of fine particulate matter (PM _{2.5})	Asset	1	Y
	H2	Area exposed to damaging levels of ammonia in the atmosphere	Asset	1	Y
	<i>See other system indicators in Table 2: S1, S2, S3 and S4</i>				
Quality and quantity of water	H3	Water tests meeting good status	Asset	1	Y
	H4	Condition of bathing waters	Asset	1	Y
	H5	Waters achieving sustainable abstraction criteria	Asset	1	Y
<i>See other system indicators in Table 2: S5, S6, S15 and S24</i>					
Cherished wildlife and wild places	H6	Status of our native species	Asset	3-4	Y
	H7	Condition of protected sites - land, water and sea	Asset	1	Y
<i>See other system indicators in Table 2: S23</i>					
Nature on land and water	H8	Functional species including pollinators and freshwater invertebrates	Asset	3	Y
	H9	Quantity, quality and connectivity of habitats	Asset	4-5	N
	H10	Characteristic species (birds, butterflies, bats, plants) of farms, woods, wetlands and coasts	Asset	1	N
<i>See other system indicators in Table 2: S16</i>					
Landscapes and waterscapes	H11	Changes in landscape and waterscape character	Asset	4	Y
	H12	Heritage features of designated sites and scheduled monuments	Asset	1-2	N
	H13	Enhancement of green/blue infrastructure	Asset	3-5	N
<i>See other system indicators in Table 2: S25</i>					
People enjoying and caring for the natural environment	H14	Engagement in the natural environment	S/B	4	Y
	H15	People engaged in social action for the environment	S/B	4	Y
	H16	Health and well-being benefits	S/B	4	Y

Headline	ID	Indicator title	Type	Availability status	Indicator is relevant to a 25 YEP target (Y/N)
	H17	Environmental attitudes and behaviours	S/B	4	N
Health and diversity of our seas	H18	Healthy Seas: fish & shellfish populations and marine food web functioning	Asset	4/5	Y
	H19	Diverse seas: Mammals, birds, fish, seafloor and pelagic habitats	Asset	4/5	Y
	<i>See other system indicators in Table 2: S8, S9, S10, S11, S12 and S13</i>				
Resilience to natural hazards	H20	Disruption or unwanted impacts from flooding or coastal erosion	S/B	4	N
	H21	Disruption or unwanted impacts caused by drought	S/B	2	N
	H22	Communities resilient to flooding or coastal erosion	S/B	4	Y
Impacts of exotic pests, diseases and invasive non-native species	H23	Abatement of the number of invasive non-native species entering and establishing against a baseline (H23)	Pressure	4	Y
	H24	Distribution and spread of invasive non-native species and plant pests and diseases (H24)	Pressure	4	Y
	<i>See other system indicators in Table 2: S22</i>				
Exposure to harmful chemicals	H25	Emissions of nationally significant substances to the environment	Pressure	6	Y
	H26	Exposure to wildlife to chemicals in the environment (including marine)	Pressure	1-4,5	N
	H27	Effects on wildlife from exposure to chemicals in the environment	Asset	2-4,5	N
Production and harvesting of natural resources	H28	Farming productivity	S/B	1-2	Y
	H29	Soil health	Asset	5	Y
	H30	Percent of the total amount of wood that grows in English woods that is harvested	S/B	1	Y
	H31	Percent of our seafood coming from healthy ecosystems, produced sustainably	S/B	5	Y
	<i>See other system indicators in Table 2: S20 and S21</i>				

Headline	ID	Indicator title	Type	Availability status	Indicator is relevant to a 25 YEP target (Y/N)
Resource efficiency and waste	H32	Raw material consumption	Pressure	6	Y
	H33	Hazardous chemicals preventing recycling	Pressure	1,6	Y
	H34	Residual waste arising by type and sector	Pressure	4	Y
	H35	Waste crime	Pressure	6	Y
<i>See other system indicators in Table 2: S7 and S17</i>					
Greenhouse gas emissions from the natural environment	H36	Emissions of greenhouse gases from natural resources	Pressure	1	Y
Impacts on the natural environment overseas	H37	Proportion of products imported from overseas that are certified as being from sustainable sources	S/B	5	N
Improving the environment overseas	H38	The value of ecosystem services protected and generated, in developing countries with UK support	Asset	5	N
	H39	Status of endemic and globally threatened species in the UK Overseas Territories	Asset	3	Y
	H40	Extent and condition of terrestrial and marine protected areas in the UK Overseas Territories	Asset	2,5	N
<i>See other system indicators in Table 2: S14, S18 and S19</i>					

Table 2 List of other system indicators for the 25 Year Environment Plan (25 YEP) not included in the headlines

ID	Indicator title	Type	Availability status	Metric is relevant to a 25 YEP target (Y/N)
S1	Roadside nitrogen dioxide (NO ₂) compliance	Asset	2	N
S2	Rural background concentrations of ozone (O ₃)	Asset	1	N
S3	Impacts of nutrient nitrogen (NO _x and NH ₃) deposition on ecosystems	Pressure	1	N
S4	UK emissions for five key air pollutants	Pressure	1	Y
S5	Pollution loads entering waters	Pressure	2	N
S6	Serious pollution incidents to water	Pressure	1	N
S7	Municipal waste recycling rates	Pressure	6	Y
S8	Percent of seabed subject to high pressure from human activity	Pressure	2	Y
S9	Diverse seas: threatened and declining features conserved	Asset	4-5	Y
S10	Healthy seas: sea-floor habitats functioning	Asset	2-4,5	Y
S11	Productive seas: fish & shellfish stocks safe & sustainable	Asset	3	Y
S12	Productive seas: sensitive fish and shellfish stocks safe	Asset	3	Y
S13	Clean seas: marine litter	Pressure	3	Y
S14	Invasive non-native species in the UK Overseas Territories	Pressure	3	N
S15	Degree of naturalness of waters and wetlands	Asset	3	N
S16	Area of woodland in England	Asset	1	Y
S17	Consumer buying choices	Pressure	5	N
S18	Developing countries better able to effectively counter illegal wildlife trade as a result of UK support	Pressure	5	N
S19	Numbers of people in developing countries supported to cope with the effects of climate change with UK	S/B	1	N

ID	Indicator title	Type	Availability status	Metric is relevant to a 25 YEP target (Y/N)
	support			
S20	Total income from farming	S/B	1	Y
S21	Volume of timber brought to market from a) the public forest estate, and b) other sources	S/B	1	N
S22	Number of high priority forest pests in the UK Plant Health Register	Pressure	1-2	Y
S23	Abundance and distribution of priority species	Asset	1,4	Y
S24	Health of freshwaters assessed through fish stocks	Asset	3	N
S25	Landscape impacts of agri-environment schemes at the National Character Area scale	Asset	3-4	Y

Section C: Headline indicator descriptions

Headline indicators

1. Changes in **air quality** that affect our health and ecosystems
2. Changes in **quality and quantity** of water and the water environment that affect our lives and livelihoods
3. Changes in **wildlife and wild places** that we cherish
4. Changes in **nature on land and water** that affect our lives and livelihoods
5. Changes in the quality of our **landscapes and waterscapes**
6. Changes in **people enjoying and caring about the natural environment**
7. Changes in the **health and diversity of our seas** that affect our lives and livelihoods
8. Changes in **resilience to natural hazards**
9. Changes in the **impact of exotic diseases and invasive non-native species**
10. Changes in exposure of people and wildlife to **harmful chemicals**
11. Changes in **production and harvesting of natural resources**
12. Changes in **resource efficiency and waste**
13. Changes in **greenhouse gas emissions** from natural resources
14. Changes in our domestic consumption that have **impacts on the natural environment overseas**
15. Changes in our contribution towards **improving the environment overseas**

1. Changes in air quality that affect our health and ecosystems

Goal: Clean air

Questions: How clean is our air? Is air quality improving in a way that reduces the impacts on our health and the health of our ecosystems?

Description: This headline indicator comprises two aspects of air quality that are known to have the biggest impacts on our health and on our ecosystems. One measures the change in concentration of fine particulates in the air (PM_{2.5}). Long-term exposure to PM_{2.5} can have adverse health impacts, particularly on the heart and lungs. Short term exposure (i.e. during short-term pollution episodes) can exacerbate existing heart and lung conditions such as asthma, and disproportionately affect the old and young. The other metric measures the area of land exposed to ammonia (NH₃) concentrations in air that are at levels that are damaging to ecosystems. The deposition of ammonia on sensitive ecosystems has impacts on biodiversity and water quality in rivers and lakes. Ammonia also forms particulate matter which is damaging for human health and it travels longer distances in this form. Both of these measures are already assessed and published at least annually

System indicator: Concentrations of fine particulate matter (PM_{2.5}) (H1)

Availability: [Published](#) annually

System indicator: Area exposed to damaging levels of ammonia (NH₃) in the atmosphere (H2)

Availability: [Published](#) annually

2. Changes in quality and quantity of water and the water environment that affect our lives and livelihoods

Goal: Clean and plentiful water

Questions: How clean is the water in our rivers, canals, groundwaters and lakes? Is the water on our bathing beaches safe to swim in? Does the amount of water we use impact on the water environment? Are we adapting to impacts of climate change on the water environment?

Description: This headline indicator comprises four aspects of water quality and quantity that have important consequences for our lives and livelihood. The first uses a wide range of tests of water quality and the water environment to assess the overall status of our waters and to determine whether specially protected freshwater habitats are in favourable condition, including waters specially protected for specific uses. Clean water reduces the costs of water treatment and improves conditions for wildlife. The second is an assessment of how clean and safe our designated bathing waters are around the coast and inland. The third is a measure of how many waters have sustainable levels of abstraction of water (for water supply, irrigation and power supply), considering surface waters, wetlands and groundwater. Changes in water quality (H3) and sustainable abstraction (H5) are measures which reflect adaptations to climate change.

System indicator: Water tests meeting good status (H3)

Availability: [Published](#) every three years

System indicator: Condition of bathing water (H4)

Availability: [Published](#) annually

System indicator: Waters achieving sustainable abstraction criteria (H5)

Availability: [Published](#) every three years

3. Changes in wildlife and wild places that we cherish

Goal: Thriving plants and wildlife

Questions: Has the overall status of our threatened species improved? Has the condition of our most important wildlife sites and areas on land, in water, coasts and high seas improved?

Description: Wildlife and wild places are an essential part of our cultural heritage and identity and the UK has made international commitments to halt the loss of biodiversity. This headline indicator has two components. The first uses a wide range of data from different sources to assess the conservation status of native species in England. This metric needs to be developed and an existing metric on changes in priority species will be used as an interim measure. The second measures the condition of our most important wildlife sites including Sites of Special Scientific Interest (SSSIs) on land and in freshwater and Marine Protected Areas (MPAs) at sea.

System indicator: Status of our native species (H6)

Availability: To be developed (use priority species (S24) as interim – [Published](#) annually)

System indicator: Condition of protected sites – land, water and seas (H7)

Availability: [Published](#) annually

4. Changes in nature on land and water that affect our lives and livelihoods

Goal: Thriving plants and wildlife

Questions: Are plants and wildlife that contribute to important ecosystem functions (e.g. pollination, water purification) thriving? Are wildlife habitats increasing in their extent, quality and connectivity? Are they becoming less vulnerable to climate change impacts? Are the populations of widespread species that characterise our farmland, woods, wetlands and coasts increasing?

Description: This headline focuses on the wider benefits provided by thriving plants and wildlife as a fundamental part of ecosystems that deliver multiple benefits, and endow resilience on natural systems. The headline indicator has three components. The first assesses abundance and diversity of two groups of species that are critical for functioning of land and water ecosystems – pollinating insects and freshwater invertebrates, respectively. The second is a composite metric that assesses the overall resilience of wildlife habitats including their overall extent, quality and connectivity. Building such resilience is necessary as an adaptation to climate change. The third measures the abundance of widespread species (birds, butterflies, bats and wild flowers) associated with the wider countryside including farmland, woods, wetlands and coastal habitats.

System indicator: Functional species, including pollinators and freshwater invertebrates (H8)

Availability: [Published](#) annually

System indicator: Quantity, quality and connectivity of habitats (H9)

Availability: To be developed – some elements are already [published](#)

System indicator: Characteristic species (birds, butterflies, bats, plants) of farmland, woods, wetlands and coasts (H10)

Availability: [Published](#) annually, but further development needed

5. Changes in the quality of our landscapes and waterscapes

Goal: Enhanced beauty, heritage and engagement with the natural environment

Questions: Are the distinctive characteristics of our landscapes and waterscapes which impart natural beauty improving? Are the heritage features of our designated sites and scheduled monuments in the natural environment improving? Can people access good quality blue and green spaces close to their homes in urban areas? Are urban areas adapted to climate change?

Description: This headline indicator has three components. The first assesses change in distinctive landscape characteristics such as field boundaries, traditional farm buildings, woodland and semi-natural habitats and agricultural land use. The second focuses on condition of heritage features of designated sites, including geological features, and scheduled monuments. The third assesses changes in the amount and quality of urban green spaces and water environments (green and blue infrastructure), including their accessibility. Enhanced green and blue infrastructure contribute to adaptation of urban environments to climate change. All elements of this headline indicator require further development.

System indicator: Changes in landscape and waterscape character (H11)

Availability: To be developed.

System indicator: Research and assessment on monitoring the impact of landscape character includes [Environmental Stewardship \(ES\) on Landscape Character and Quality](#) and [Developing Indicators and Thresholds for Monitoring the Landscape Impacts of Environmental Stewardship at the National Character Area Scale](#)

Heritage features of designated sites and scheduled monuments (H12)

Availability: To be developed. Some elements are already available e.g. [scheduled monuments at risk](#)

System indicator: Enhancement of green/blue infrastructure (H13)

Availability: To be developed

6. Changes in people enjoying and caring about the natural environment

Goal: Enhanced beauty, heritage and engagement with the natural environment

Questions: Are people becoming more engaged with the natural environment? Are people from all social backgrounds and age groups spending more time in natural spaces? Are they becoming more concerned and caring for nature? Are people engaging in more social action like environmental volunteering? Are more people gaining better health and well-being benefits? Are people developing more positive attitudes and behaviours towards the environment?

Description: This headline indicator has four components. The first assesses changes in peoples' engagement with the natural environment, covering elements such as time spent in green and natural spaces and peoples' levels of care and concern for the environment. The second assesses the extent of people's social action for the environment, such as environmental volunteering. The third assesses the health and well-being benefits that people gain from their engagement with the natural environment. The fourth assesses peoples' attitudes and behaviours towards the natural environment, including recycling and littering. All of these include information on social groups, age and gender to support further analysis. Where possible a breakdown will be provided for different asset types such as woodland and water environments.

System indicator: Engagement in the natural environment (H14)

Availability: To be developed – some information on visits is already [published](#)

System indicator: People engaged in social action for the environment (H15)

Availability: To be developed – some information on volunteering is already [published](#)

System indicator: Health and well-being benefits (H16)

Availability: To be developed

System indicator: Environmental attitudes and behaviours (H17)

Availability: To be developed

7. Changes in the health and diversity of our seas that affect our lives and livelihoods

Goal: Thriving plants and wildlife, using resources from nature more sustainably and efficiently

Questions: Are exploited fish and shellfish communities in our seas in a healthy condition? Is the diversity of marine life and the condition of marine habitats improving? *

Description: This headline indicator consists of two composite metrics. The metric for healthy seas includes the size, structure and function of exploited fish and shellfish communities and the structure and function of marine food webs. The metric is indicative of healthy ecosystems that support sustainable use over the long-term. The metric for diverse seas includes: the status (distribution, population size and condition) of individual groups marine mammals, birds and fish; the distribution, extent and condition of seafloor habitats; and changes in plankton communities and changes in plankton biomass and abundance in pelagic (open ocean) habitats.

System indicator: Healthy Seas: fish, shellfish populations and marine food webs functioning (H18)

Availability: Development required. Data and/or methods are available for fish and shellfish populations but significant development required for marine food webs

System indicator: Diverse Seas: mammals, birds, fish, seafloor habitats and pelagic habitats (H19)

Availability: Development required. Data and/or methods are available for mammals, birds and fish. Data and/or methods are available for some seafloor habitats and pelagic habitats. Significant development required to cover a full range of habitats

8. Changes in resilience to natural hazards

Goal: Reducing risk of harm from environmental hazards

Questions: Are people experiencing less disruption from flooding and coastal erosion and drought? Are people less affected by limited water supply during droughts? Are communities becoming more resilient to flooding? Are risks of harm from natural hazards being reduced despite effects of climate change?

Description: This headline indicator comprises three metrics covering different ways in which natural hazards such as flooding, coastal erosion and drought affect people's lives, including impacts on homes, businesses, infrastructure and health and changes in resilience of communities to flooding and coastal erosion. In view of observed and anticipated effects of climate change on the frequency and severity of natural hazards these metrics (H20, H21 and H22) are useful as measures of adaptation to climate change.

System indicator: Disruption or unwanted impacts from flooding or coastal erosion (H20)

Availability: To be developed, subject to decisions on long-term Flood and Coastal Erosion Risk Management policy and Environment Agency strategy due early 2019

System indicator: Disruption or unwanted impacts caused by drought (H21)

Availability: To be developed – some elements are already [published](#).

System indicator: Communities resilient to flooding or coastal erosion (H22)

Availability: To be developed, subject to decisions on long-term Flood and Coastal Erosion Risk Management policy and Environment Agency strategy due early 2019

9. Changes in the impact of exotic pests, diseases and invasive non-native species

Goal: Enhancing biosecurity

Questions: Are the number and impacts of invasive non-native species decreasing? Are the number and impacts of tree pests and disease decreasing?

Description: This headline indicator has two components. The first relates to the number of non-native species that become established and have an impact on our wildlife and livelihoods. The second relates to the distribution and spread of non-native species and pests and diseases.

System indicator: Abatement of the number of invasive non-native species entering and establishing against a baseline (H23)

Availability: To be developed. The current indicator will be used as an interim indicator. The statistics are [published](#) annually, but further development needed

System indicator: Distribution and spread of invasive non-native species and plant pests and diseases (H24)

Availability: To be developed. Data on the distribution of non-native species and pests and diseases exist, but further development will be required to produce an indicator. An indicator on the number of tree pests and diseases established in England in the last 10 years will be used as an interim indicator and is [published](#) annually

10. Changes in exposure to people and wildlife to harmful chemicals

Goal: Managing exposure to chemicals

Questions: Are emissions of harmful chemicals to the environment decreasing? Is the exposure of wildlife on land, in freshwater environments and at sea to harmful chemicals decreasing? Are wildlife populations affected by harmful chemicals?

Description: This headline indicators has three components. The first is an index of emissions of mercury and persistent organic pollutants to air and water. The second is measure of the exposure of wildlife to harmful chemicals, including pesticides, in terrestrial, marine and freshwater environments. The third is a measure of the consequences and effects for wildlife of changes in chemical concentrations in the environment.

System indicator: Emissions of nationally significant substances to the environment (H25)

Availability: Information already [published](#)

System indicator: Exposure of wildlife to chemicals in the environment (including marine) (H26)

Availability: To be developed but information already published in a number of sources.

System indicator: Effects on wildlife from exposure to chemicals in the environment (H27)

Availability: To be developed but information already published in a number of sources.

11. Changes in production and harvesting of natural resources

Goal: Using resources from nature more sustainably and efficiently

Questions: Is farm productivity increasing at the same time as the environment is improving? Are our soils healthy, providing multiple long term benefits including food production, water retention and carbon sequestration? Are we making the most of our woodland resources and managing our woods sustainably? Are we harvesting our seafood in a way that is sustainable and maintains wild populations of fish and shellfish?

Description: The headline indicator has four components. The first is a measure of farm productivity which is a measure of well inputs such as fertilizers and labour etc. are converted into outputs such as wheat or milk for example, giving an indication of the efficiency and competitiveness of the agriculture industry. The second is a composite measure of soil health which underpins the multiple functions of soils in food production, runoff and erosion and carbon sequestration. The third is a measure of the amount of wood harvested compared to the amount of wood growing in England. The fourth is a measure of the amount of seafood that is harvested within safe biological limits in a way that minimises harm to the wider marine environment.

System indicator: Farming productivity (H28)

Availability: Already [published](#)

System indicator: Soil health (H29)

Availability: To be developed – Defra R&D project due to completed at end of 2019

System indicator: Percent of the total amount of wood that grows in English woods that is harvested (H30)

Availability: Already [published](#)

System indicator: Percent of our seafood coming from healthy ecosystems, produced sustainably (H31)

Availability: To be developed – [interim indicator on fish stocks](#)

12. Changes in resource efficiency and waste

Goal: Minimising waste

Questions: Are we using resources more efficiently and reducing waste? Are we consuming less raw materials? Are there less contaminants in waste that stop us from recycling them? Are households and businesses producing less waste? Is there less waste crime and littering?

Description: This headline indicator has four elements. The first is a measure of the amount of raw material that we use in our economy. The more raw material we use the bigger the impact on our natural resources. The second is a measure of hazardous and damaging chemicals in our waste that can prevent recycling of materials. The third is a measure of the amount and types of household and business waste remaining after recycling: avoiding residual waste means less has to be incinerated or disposed to landfill. The fourth is a measure of illegal waste disposal, dumping and littering.

System indicator: Raw material consumption (H32)

Availability: Already [published](#).

System indicator: Hazardous chemicals preventing recycling (H33)

Availability: Some data already [published](#)

System indicator: Residual waste arising by type and sector (H34)

Availability: Already [published](#)

System indicator: Waste crime (H35)

Availability: Already [published](#)

13. Changes in greenhouse gas emissions from natural resources

Goal: Mitigating and adapting to climate change

Questions: Are anthropogenic greenhouse gas emissions from natural resources reducing?

Description: This headline indicator relates to climate change mitigation and shows the annual net amount of greenhouse gas emissions from land use, land use change, forestry, agriculture and waste sectors, and from the use of fluorinated gases.

Adaptation to climate change is a cross-cutting issue and key aspects of adaptation are included within other relevant headline indicators: (2) Quality and quantity of water; (4) Nature on land and water; (5) Landscapes and waterscapes; and, (8) Resilience to natural hazards.

System indicator: Emissions of greenhouse gases from natural resources (H36)

Availability: Already [published](#)

14. Changes in our domestic consumption that has impacts on the natural environment overseas

Goal: There are no specific goals in the 25 Year Environment Plan for this indicator

Questions: Are we reducing the overseas environmental impact of our domestic consumption? Are the products that we import produced sustainably?

Description: This headline indicator will measure change in the proportion of products imported that are certified as being from sustainable sources. Initial development could focus on timber, fish, palm oil and /or peat, with further extension dependent on data availability.

System indicator: Proportion of products imported that are certified as being from sustainable sources (H37)

Availability: To be developed. Further research needed to explore options and/or new data collection.

15. Changes in our contribution towards improving the environment overseas

Goal: There are no specific goals in the 25 Year Environment Plan for this headline indicator

Questions: Is UK Overseas Development Assistance helping developing countries to mitigate climate change, halt the loss of biodiversity and alleviate poverty? Is the status and protection of wildlife in UK Overseas Territories improving?

Description: This headline indicator has three components. The first measures the value of ecosystem services protected and generated in developing countries due to UK intervention. The second and third measure aspects of the conservation of biodiversity in UK Overseas Territories, which are home to rich, globally important biodiversity, with many species found nowhere else in the world and a variety of spectacular marine and terrestrial ecosystems.

System indicator: The value of ecosystem services protected and generated in developing countries with UK support (H38)

Availability: All elements of this headline indicator require further development, but some could be available by the end of 2019

System indicator: Status of endemic and globally threatened species in the UK Overseas Territories (H39)

Availability: All elements of this headline indicator require further development, but some could be available by the end of 2019

System indicator: Extent and condition of terrestrial and marine protected areas in the UK Overseas Territories (H40)

Availability: All elements of this headline indicator require further development, but some could be available by the end of 2019

Section D: Technical summaries of indicators

Introduction

This section provides a short technical summary of each of the indicators. The list of indicators is organised in two parts which correspond with Tables 1 and 2 in Section B. The first part has details for the indicators which are included in the headlines (identification numbers H1 to H40). The second part has details for the other system indicators (identification numbers S1 to S25). For each indicator the summary includes a cross-reference to relevant goals and targets in the 25 Year Environment Plan, the natural capital asset to which it relates and links to applications in other relevant international reporting. The status of each indicator is also assessed in terms of whether it is already published or whether further development is required. The status has been assigned to one of six categories (see Box 1 in Section B). The geographic scope refers to the area the data set covers.

Part A Indicators included in the headlines

H1 Concentrations of fine particulate matter (PM_{2.5})

Short description: This indicator tracks the impact air quality has on human health through exposure to harmful air borne pollutants. To be assessed by calculating the annual population-weighted mean for fine particles (PM_{2.5}) in the air.

25 Year Environment Plan goal & target: Clean air - Meeting legally binding targets to reduce emissions of five damaging air pollutants – including primary PM_{2.5} and precursor pollutants that contribute to secondary PM_{2.5} in the atmosphere. This should halve the effects of air pollution on health by 2030.

Type: **Asset condition**

If asset which: Air

Status: 1 - [Published](#) annually

EU and other international reporting links: UK only

Geographical scope: UK

H2 Area exposed to damaging levels of ammonia (NH₃) in the atmosphere

Short description: This indicator tracks changes in land area affected by damaging levels of ammonia (NH₃) in the air. It shows the percentage of land area which exceeds the critical level thresholds.

25 Year Environment Plan goal & target: Clean air - Meeting legally binding targets to reduce emissions of five damaging air pollutants including NH₃.

Type: **Asset condition**

If asset which: Air; farms; mountains, moor and heath; woods, water

Status: 1 - [Published](#) annually

EU and other international reporting links: EU and Convention on Long-range Transboundary Air Pollution (CLRTAP)

Geographical scope: England

H3 Water tests meeting good status

Short description: Percent of water tests meeting good (or better) WFD status, complying with objectives for waters specially protected for specific uses, and favourable condition. Includes various types of protected area (but not bathing waters which is broken out into a separate headline), includes tests meeting good chemical status. This is also a measure of our adaptation to climate change.

25 Year Environment Plan goal & target: Clean and plentiful water - Reaching or exceeding objectives for rivers, lakes, coastal and ground waters that are specially protected, whether for biodiversity or drinking water as per our River Basin Management Plans.

Type: **Asset condition**

If asset which: Water; seas

Status: 1 - [Published](#) every three years

EU and other international reporting links: Includes reporting to International Council for the Exploration of the Seas and the North Atlantic Salmon Conservation Organisation.

Majority of metric is already collected as part of EU Water Framework Directive classification and reporting to UK public once every 3 years.

Geographical scope: England

H4 Condition of bathing waters

Short description: Percent of bathing waters meeting sufficient conditions as measured by harmful bacteria levels.

25 Year Environment Plan goal & target: Clean and plentiful water - Minimising by 2030 the harmful bacteria in our designated bathing waters and continuing to improve the cleanliness of our waters. We will make sure that potential bathers are warned of any short-term pollution risks.

Type: **Asset condition**

If asset which: Water; seas

Status: 1 - [Published](#) annually

EU and other international reporting links: Statutory duty under the EU Bathing Water Regulations to report daily to users and forecast poor quality, statutory duty to report annually to government and EU

Geographic scope: England

H5 Waters achieving sustainable abstraction criteria

Short description: Percent of waters where sustainable abstraction criteria is met in surface and ground waters, including groundwater dependent terrestrial ecosystems (wetlands). The indicator is linked to OFWAT leakage targets in the 25 Year Environment Plan and also to the efficient use of water as measured by per capita consumption. It is also a measure of our adaptation to climate change. We may want to develop further specific indicators to reflect pressure on water resources, for example on water conservation, when finalising the indicator framework.

25 Year Environment Plan goal & target: Clean and plentiful water - Reducing the damaging abstraction of water from rivers and groundwater, ensuring that by 2021 the proportion of water bodies with enough water to support environmental standards increases from 82% to 90% for surface water bodies and from 72% to 77% for groundwater bodies.

Type: **Asset condition**

If asset which: Water

Status: 1 - [Published](#) every three years

EU and other international reporting links: Reported every 3 years as part of the Water Framework Directive/Water Environment Regulations 2017.

Geographical scope: England

H6 Status of our native species

Short description: This indicator will use information from IUCN species status assessments across terrestrial, freshwater and marine species as data allow. The overall numbers (% of species) in each threat category can then be reported giving a snapshot of extinction risk posed: the more classified as least concern the better; progressively worsening as vulnerable, endangered, critically endangered, regionally extinct. Simple index construction to summarise this info. Repeat assessments (4-6 year intervals) to allow updates on status and charting/reporting change. Baseline is done. Worth noting that this is currently at the GB level and not England level.

25 YEP goal & target: Thriving plants and wildlife - Taking action to 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.

Type: **Asset condition**

If asset which: Water; mountains, moor and heaths; woods; farms; towns and cities

Status: 3 – 4

EU and other international reporting links: Habitats Directive; Convention on Biological Diversity

Geographical scope: Great Britain

H7 Condition of protected sites – land, water and sea

Short description: Extent and condition of protected sites - areas of land, inland water and the sea that have special legal protection to conserve important habitats and species in England. These include our Sites of Special Scientific Interest, Marine Protected Areas, Special Areas of Conservation, Special Protection Areas and Ramsar sites. Condition is assessed against relevant common standards agreed by the UK conservation agencies.

25 Year Environment Plan goal & target: Thriving plants and wildlife - Increasing the proportion of protected and well-managed seas, and better managing existing protected sites; Restoring 75% of our one million hectares of terrestrial and freshwater protected sites to favourable condition, securing their wildlife value for the long term.

Type: **Asset condition**

If asset which: Seas; farms; woods; mountains, moor and heaths; towns and cities

Status: 1 - [Published](#) annually

EU and other international reporting links: EU Habitats Directive; OSPAR Convention; Convention on Biological Diversity

Geographical scope: England

H8 Functional species including pollinators and freshwater invertebrates

Short description: All species have a functional role within ecosystems such as photosynthesis, respiration, decomposition, nutrient cycling predator-prey and symbiotic relationships such as pollination. Plants, fungi, algae, invertebrates and soil micro-organisms are particularly important. The presence, abundance and diversity of species are key factors in determining the extent, complexity and resilience of

ecosystems to environmental changes, including climate change and disease, and the maintenance of ecosystem services. Further work is required to develop this indicator building on existing indicators such as for pollinators and freshwater invertebrates. 25 Year Environment Plan goal & target: Thriving plants and wildlife - Taking action to 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 UK Overseas Territories.

Type: **Asset condition**

If asset which: Farms; woods; mountains, moor and heaths; towns and cities

Status: 3, building on existing indicator [published](#) annually

EU and other international reporting links: Convention on Biological Diversity

Geographical scope: UK

H9 Quantity, quality and connectivity of habitats

Short description: This takes account of the Lawton principles of more, bigger, better and joined but also incorporates consideration of ecosystem functions and process. Building such resilience is necessary as an adaptation to climate change. Some aspects of this indicator can be assessed now such as extent. However, measures of quality of habitats beyond protected sites is limited and we don't have a readily available method for connectivity that is ready to roll out. We could further develop the Favourable Conservation Status (FCS) methodology to address the issue of quality. FCS describes good looks like in terms of habitat (and species) ecology, distribution, abundance and ecosystem function (where relevant). Importantly, this indicator would assess 'quality and condition' and not just range and extent, which is often a missing attribute. Some indicators of aspects of ecosystem functions and processes are available but these are not comprehensive. We need to develop methodologies for connectivity. Data from NE Long Term Monitoring Network data could contribute here. 25 Year Environment Plan goal & target: Mitigating and adapting to climate change - Implementing a sustainable and effective second National Adaptation Programme.

Type: **Asset condition**

If asset which: Farms; woods; water; mountain, moor and heath; towns and cities

Status: 4-5, some elements are already [published](#)

EU and other international reporting links: EU Habitats Directive; Convention on Biological Diversity

Geographical scope: England

H10 Characteristic species (birds, butterflies, bats, plants) of farms, woods, wetlands and coasts

Short description: This indicator will use regularly collected data to track changes in populations of birds, bats, butterflies, moths and plants in relation to farmland, woodland, wetlands and coasts.

25 Year Environment Plan goal & target: Thriving plants and wildlife

Type: **Asset condition**

If asset which: water, woods; farms; mountain, moor and heath

Status: 1 - [Published](#) annually

EU and other international reporting links: EU Habitats Directive; Convention on Biological Diversity.

Geographical scope: England

H11 Changes in landscape and waterscape character

Short description: This is a composite indicator of changes in distinctive landscape character. This is building on an approach that has been developed to assess the impacts of agri-environment on landscape in 159 National Character Areas. It includes metrics on field patterns and boundaries, traditional farm buildings, semi-natural habitats, agricultural land use, historic environments and woodland/tree cover. Extent and condition of National Parks and Areas of Outstanding Natural Beauty will be considered. Character of freshwater features also need further consideration.

25 Year Environment Plan goal & target: Enhancing beauty, heritage and engagement with the natural environment - Safeguarding and enhancing the beauty of our natural scenery and improving its environmental value while being sensitive to considerations of its heritage.

Type: **Asset condition**

If asset which: Water; woods; farms; towns and cities; mountain, moor and heath

Status: 4 - An assessment on monitoring the impact of [Environmental Stewardship \(ES\) on Landscape Character and Quality](#) has been made.

EU and other international reporting links: N/A

Geographical scope: England

H12 Heritage features of designated sites and scheduled monuments

Short description: This indicator is a composite measure that seeks to assess the changes in the condition of geological heritage features of Sites of Special Scientific Interest (SSSIs) and the condition of Scheduled Monuments. It will use information from SSSI condition assessments and information from the Heritage at Risk Register.

25 Year Environment Plan goal & target: Enhancing beauty, heritage and engagement with the natural environment

Type: **Asset condition**

If asset which: Farms; woods; mountain, moor and heath

Status: 1-2; data is available but the indicator needs working up, some elements are already available e.g. [scheduled monuments at risk](#)

EU and other international reporting links: N/A

Geographical scope: England

H13 Enhancement of green/blue infrastructure

Short description: This indicator will be developed from work on a new framework of standards for the quantity, quality, accessibility and functioning of green and blue infrastructure, including within Green Belts, delivered as part of new development via the planning system, ongoing enhancement of existing green infrastructure assets and retro-fitting of new green infrastructure in areas where provision is poor, and at a range of scales. Further development may include assessment of the visual attractiveness of waters with access for people using citizen science techniques. This indicator will also assess how well urban environments are adapting to climate change

25 Year Environment Plan goal & target: Enhancing beauty, heritage and engagement with the natural environment

Type: **Asset condition**

If asset which: Towns and cities; water; woods

Status: 3 for draft indicator; 4 for final tested indicator, 5 for Appearance of water

EU and other international reporting links: There is a link to the reporting of UK landscape assessment and monitoring activities that contribute to the aims and objectives of the European Landscape Convention.

Geographic scope: UK

H14 Engagement in the natural environment

Short description: This indicator aims to show changes in peoples' engagement with the natural environment. It will cover key elements of engagement such as time spent in natural spaces (freshwaters, coasts and woodland alongside other natural places) and peoples' levels of care and concern for the environment. It will be measured using the new Monitor of Engagement with the Natural Environment (MENE) survey.

25 Year Environment Plan goal & target: Enhancing beauty, heritage and engagement with the natural environment - 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.

Type: **Service/benefit**

If asset which: N/A

Status: 4, some information on visits is already [published](#)

EU and other international reporting links: Convention on Biological Diversity

Geographical scope: England

H15 People engaged in social action for the environment

Short description: This indicator aims to assess the extent of people's social action for the environment such as environmental volunteering, participation in conservation work, donations to environmental organisation. It will be measured using the new Monitor of Engagement with the Natural Environment (MENE) survey.

25 Year Environment Plan goal & target: Enhancing beauty, heritage and engagement with the natural environment - Focusing on increasing action to improve the environment from all sectors of society.

Type: **Service/benefit**

If asset which: N/A

Status: 4, some information on volunteering is already [published](#)

EU and other international reporting links: Convention on Biological Diversity

Geographical scope: England

H16 Health and well-being benefits

Short description: This indicator aims to show changes in the health and well-being benefits that the natural environment provides for people. These can include benefits that are gained from accessing nature for mental and physical health, but also benefits such as improvements in air quality, climate regulation (e.g. urban cooling) that can benefit people whether they access nature or not. It could also consider environmental burdens using World Health Organisation data. This latter point could be dealt with as a pressure.

25 Year Environment Plan goal & target: Enhancing beauty, heritage and engagement with the natural environment - 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.

Type: **Service/benefit**

If asset which: N/A

Status: 4

EU and other international reporting links: N/A

Geographical scope: England

H17 Environmental attitudes and behaviours

Short description: This indicator aims to show changes in people's attitudes and behaviours relating to the natural environment. It will cover different socio-economic groups, including children and young people. It will be measured using the new Monitor of Engagement with the Natural Environment (MENE) survey. .

25 Year Environment Plan goal & target: Enhancing beauty, heritage and engagement with the natural environment

Type: **Service/benefit**

If asset which: N/A

Status: 4

EU and other international reporting links: Convention on Biological Diversity

Geographical scope: England

H18 Healthy Seas: fish & shellfish populations and marine food webs functioning

Short description: This indicator will track the health of our seas using metrics considering the size, structure and function of fish and shellfish assemblages, and the structure and function of different trophic levels in marine food webs. The work is linked to emerging indicators taken from OSPAR, but they are not yet comprehensive and development is ongoing. Indicators focus on pelagic habitats and populations of key species groups within the food web. These measures are indicative of healthy ecosystems that will ensure our use in long-term is sustainable. The targets will be set in line with prevailing environmental conditions and no adverse impacts from human activity. Currently these metrics are derived from work on indicators for Marine Strategy Framework Directive (MSFD) Descriptors 1 (biodiversity), 4 (food webs) and 6 (seafloor integrity) being delivered through the OSPAR Convention.

25 Year Environment Plan goal & target: Thriving plants and wildlife - Making sure populations of key species are sustainable with appropriate age structures; reversing the loss of marine biodiversity and, where practicable, restoring it. Using resources from nature more sustainably and efficiently - Ensuring that all fish stocks are recovered to and maintained at levels that can produce their maximum sustainable yield.

Type: **Asset condition**

If asset which: Seas

Status: 4 – 5

EU and other international reporting links: Oslo and Paris (OSPAR) Convention, EU Marine Strategy Framework Directive, EU Water Framework Directive, International Council for Exploration of the Seas (ICES), Convention on Biological Diversity.

Geographic scope: UK

H19 Diverse seas: mammals, birds, fish, seafloor habitats and pelagic habitats

Short description: The status of marine mammals, birds and fish metric will be tracked using the results of the assessments on individual species groups using indicators for species distribution, population size and condition. The seafloor habitats metric will assess whether loss of biodiversity has been halted and recovery is (where possible) underway and will be a complex metric based on the integration of indicators for habitat distribution, habitat extent and habitat condition, as well as physical damage (to the seabed), and condition of the benthic community on selected habitat types. The pelagic

habitats metric will assess changes in plankton communities and changes in plankton biomass and abundance and is linked to supporting indicators taken from OSPAR. All targets will be set in line with prevailing environmental condition with no significant impacts from human activities. Currently these metrics are derived from work on indicators for MSFD Descriptors 1 (biodiversity), 4 (food webs) and 6 (seafloor integrity) being delivered through OSPAR.

25 Year Environment Plan goal & target: Thriving plants and wildlife - Reversing the loss of marine biodiversity and, where practicable, restoring it; ensuring seafloor habitats are productive and sufficiently extensive to support healthy, sustainable ecosystems.

Type: **Asset condition**

If asset which: Seas

Status: 2-4/5 depending on indicator

EU and other international reporting links: Oslo and Paris (OSPAR) Convention; EU Marine Strategy Framework Directive, EU Habitats Directive, EU Birds Directive, EU Water Framework Directive, International Council for Exploration of the Seas (ICES), Convention on Biological Diversity.

Geographical scope: UK

H20 Disruption or unwanted impacts from flooding or coastal erosion

Short description: A headline measure to bring together the different ways in which flooding and coastal erosion can affect people's lives. Will cover impacts on homes, businesses, infrastructure and people's health. Impacts will be graded from most to least severe to respond to increasing or reducing risk or increasing resilience. This indicator is a useful measure of adaptation to climate change. The specific details are subject to decisions on long-term Flood and Coastal Erosion Risk Management policy & Environment Agency strategy due early 2019

25 Year Environment Plan goal & target: Reducing the risks of harm from environmental hazards - Boosting the long-term resilience of our homes, businesses and infrastructure

Type: **Service/benefit**

If asset which: N/A

Status: 4 to be developed -

EU and other international reporting links: N/A

Geographic scope: England

H21 Disruption or unwanted impacts caused by drought

Short description: This indicator will show changes in the number of people living in water resource zones that do not have sufficient water supplies under Ofwat's Security of Supply Index. Availability of data may be limited as the information requested is voluntary and has not been routinely reported since PR14 by all water companies, so the metric will need some development. This indicator is a useful measure of adaptation to climate change.

25 Year Environment Plan goal & target: Reducing the risks of harm from environmental hazards - Boosting the long-term resilience of our homes, businesses and infrastructure

Type: **Service/benefit**

If asset which: N/A

Status: 2, some elements are already [published](#).

EU and other international reporting links: N/A

Geographic scope: England

H22 Communities resilient to flooding or coastal erosion

Short description: We will develop a resilience test to apply to all communities that are at risk of flooding. This will identify whether measures are in place to reduce the harm caused when flooding does occur. This indicator is a useful measure of adaptation to climate change. Specific details are subject to decisions on long-term Flood and Coastal Erosion Risk Management policy & Environment Agency strategy due early 2019.

25 Year Environment Plan goal & target: Reducing the risks of harm from environmental hazards - Boosting the long-term resilience of our homes, businesses and infrastructure

Type: **Service/benefit**

If asset which: N/A

Status: 4 to be developed. EU and other international reporting links: N/A

Geographic scope: England

H23 Abatement of the number of invasive non-native species entering and establishing against a baseline

Short description: This indicator will use the predicted trend for establishment on non-native species compared to actual establishment as a measure of the success of current biosecurity measures. Further development is required and the current non-native species indicator published as part of the UK Biodiversity Indicators will be used as an interim indicator. The interim indicator shows the change in number of invasive non-native species established across more than 10% of the land area of Great Britain, or more than 10% of the extent of the coastline. This is an existing indicator for Great Britain and would need to be translated into an England-only indicator if possible.

25 Year Environment Plan goal & target: Enhancing biosecurity- Managing and reducing the impact of existing plant and animal diseases; lowering the risk of new ones and tackling invasive non-native species

Type: **Pressure**

If asset which: N/A

Status: 4, the statistics are [published](#) annually, but further development needed

EU and other international reporting links: Convention on Biological Diversity

Geographical scope: UK

H24 Distribution of invasive non-native species and plant pests and diseases

Short description: This indicator will be used to demonstrate the impact of species that are established as the continuing pressure will not be picked up in the abatement indicator above. It will utilise distribution data for a subset of 'indicator' invasive species and plant pests and diseases. The interim indicator enumerates the number of tree pests and diseases formally considered as 'established' by the Plant Health Board. The indicator figure is for a rolling period of 10 years. This is some measure of the pressure on the woodland resource from pests and diseases, and updated annually.

25 Year Environment Plan goal & target: Enhancing biosecurity- Managing and reducing the impact of existing plant and animal 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 Plan of 2018

Type: **Pressure**

If asset which: N/A

Status: 4. Distribution data exists for some species, but further development needed. An indicator on the number of tree pests and diseases established in England in the last 10 years will be used as an interim indicator and is [published](#) annually.

EU and other international reporting links: N/A

Geographical scope: England

H25 Emissions of nationally significant substances to the water environment

Short description: This indicator tracks nationally significant substances entering the water environment from measured, calculated and modelled sources. Nationally significant substances are those listed under the Stockholm Convention (on Persistent Organic Pollutants) or specifically under the EU Water Framework Directive (WFD), and meeting the criteria of being significant in terms of prevalence, or increasing prevalence; in the environment.

25 Year Environment Plan goal & target: Managing exposure to chemicals - Reducing land-based emissions of mercury to air and water by 50% by 2030.

Type: **Pressure**

If asset which: N/A

Status: 6, Information already [published](#)

EU and other international reporting links: EU Water Framework Directive; Oslo and Paris Commission (OSPAR).

Geographical scope: England

H26 Exposure of wildlife to chemicals in the environment (including marine)

Short description: This indicator will track changes in the exposure of wildlife chemicals (including pesticides) in the environment, in terrestrial, freshwater and marine ecosystems.

25 Year Environment Plan goal & target: Managing exposure to chemicals; Thriving plants and wildlife

Type: **Pressure**

If asset which: N/A

Status: 1, 4 and 5

EU and other international reporting links: EU Water Framework Directive; Oslo and Paris Commission (OSPAR), EU Marine Strategy Framework Directive Descriptor 8.

Geographical scope – England (UK for marine).

H27 Effects on wildlife from exposure to chemicals in the environment

Short description: An indicator of the consequences for wildlife of changes in chemical concentrations in the environment.

25 Year Environment Plan goal & target – Thriving plants and wildlife; managing exposure to chemicals

Type: **Asset condition**

If asset which: Water; farms; woods; mountain, moor and heath; seas; towns and cities

Status: 2, 4 or 5

EU and other international reporting links – EU Water Framework Directive; EU Marine Strategy Framework Directive Descriptor 8.

Geographical scope: England (UK for marine).

H28 Farming productivity

Short description: Total factor productivity is a well-established index-based measure of how well inputs (fertilisers, labour etc.) are converted into outputs (wheat, milk etc.) giving an indication of the efficiency and competitiveness of the agriculture industry. It is based on the ratio of inputs to outputs such that the higher the value, the more efficiently inputs are converted into outputs. Data are based on volumes rather than values so that price effects are removed.

25 Year Environment Plan goal & target: Using resources from nature more sustainably and efficiently - Ensuring that food is produced sustainably and profitably.

Type: **Service/benefit**

If asset which: N/A

Status: 1, already [published](#)

EU and other international reporting links: EU Common Agricultural Policy [indicators](#).

Geographical scope: UK (England level in development)

H29 Soil Health

Short description: A composite measure of soil health which underpins the multiple functions of soils in food production, runoff and erosion and carbon sequestration. More work is being done to define exactly what the measurement would entail, well-managed, healthy soil is key for sustainable food production.

25 Year Environment Plan goal & target: Using resources from nature more sustainably and efficiently - 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.

Type: **Asset condition**

If asset which: Farms; water

Status: 5

EU and other international reporting links: [OECD](#)

Geographic scope: England

H30 Percent of the total amount of wood that grows in English woodlands that is harvested

Short description: Percentage of the total amount of wood that grows in English woodlands that is harvested

25 Year Environment Plan goal & target: Using resources from nature more sustainably and efficiently - Increasing timber supplies

Type: **Service/benefit**

If asset which: Woods

Status: 1, already [published](#)

EU and other international reporting links: Ministerial Conference on the Protection of Forests in Europe and publication in the State of Europe's Forests (SOEF).

Geographic scope: England

H31 Percent of our seafood coming from healthy ecosystems, produced sustainably

Short description - A composite indicator that includes seafood, fish and aquaculture products. It will combine metrics on production (covering harvesting and subsequent preparation), management and impact on the environment (including footprint). It also relates to system indicators regarding the impacts on seafloor from industries
25 Year Environment Plan goal & target: Using resources from nature more sustainably and efficiently; thriving plants and wildlife - Ensuring that all fish stocks are recovered to and maintained at levels that can produce their maximum sustainable yield; Thriving plants and wildlife

Type: **Service/benefit**

If asset which: N/A

Status: 5, [interim indicator on fish stocks](#)

EU and other international reporting links: Oslo and Paris (OSPAR) Convention;, EU Marine Strategy Framework Directive, EU Water Framework Directive, International Council for Exploration of the Seas (ICES), Convention on Biological Diversity (CBD).

Geographic scope: UK

H32 Raw material consumption

Short description: The Office for National Statistics provide data on raw material usage. Raw material consumption per unit Gross Value Added helps indicate how well we are doing in de-coupling consumption from environmental impact (i.e. level of efficiency links with wealth creation). An indicator could be developed that enables a benchmark to be established for materials in the production/construction and use phases and when they are likely to reach end of life and be available for reuse, recycling etc. This will enable trend analysis but requires more sophisticated metrics to be developed than is available from existing data.

25 Year Environment Plan goal & target: Using resources from nature more sustainably and efficiently- Maximising the value and benefits we get from our resources, doubling resource productivity by 2050.

Type: **Pressure**

If asset which: N/A

Status: 6, some data already [published](#).

EU and other international reporting links: Links to Eurostat reporting and WTO

Geographic scope: England

H33 Hazardous chemicals preventing recycling

Short description: This indicator will track the amount of hazardous and damaging chemicals (persistent organic pollutants and polychlorinated biphenyls) in our waste so that we can increase our recycling rates.

25 Year Environment Plan goal & target: Managing exposure to chemicals - Fulfilling our commitments under the Stockholm Convention as outlined in the UK's most recent National Implementation Plan. Substantially increasing the amount of Persistent Organic Pollutants (POPs) material being destroyed or irreversibly transformed by 2030, to make sure there are negligible emissions to the environment. Seeking in particular to eliminate the use of Polychlorinated Biphenyls (PCBs) by 2025, in line with our commitments under the Stockholm Convention.

Type: **Pressure**

If asset which: N/A

Status: 1 PCBS, 6 for POPs: Some data already [published](#)
EU and other international reporting links: Persistent Organic Pollutants Regulation (Article 12).
Geographic scope: UK

H34 Residual waste arising by type and sector

Short description: This is the amount of residual waste arising from businesses and the public captured through existing information collected. There are some gaps for the commercial and industry sector, as current data only exists for waste handled at permitted facilities and for some non-site based waste regimes.

25 Year Environment Plan goal & target: Minimising waste - Working towards our ambition of zero avoidable waste by 2050; Working to a target of eliminating avoidable plastic waste by end of 2042; meeting all existing waste targets – including those on landfill, reuse and recycling – and developing ambitious new; future targets and milestones.

Type: **Pressure**

If asset which: N/A

Status: 4 – requires tracking system to be developed in line with objective. Some data already [published](#)

EU and other international reporting links: Landfill Regulation, Eurostat;
[WasteDataFlow](#)

Geographic scope: England

H35 Waste crime

Short description: This indicator is based upon the main types of waste crime and quantities of waste associated with them. The current data can be used to establish main waste types, level of criminal activity and geographic distribution. This indicator could be further developed to address impacts and behavioural aspects of waste crime and also to reflect the need for targeting and effective enforcement to deliver reductions in the level of criminal activities.

25 Year Environment Plan goal & target: Minimising waste - seeking to eliminate waste crime and illegal waste sites over the lifetime of this Plan, prioritising those of highest risk.

Type: **Pressure**

If asset which: N/A

Status: 6 – ready to go pending development of a more sophisticated metric, some data already [published](#).

EU and other international reporting links: N/A

Geographic scope: England

H36 Emissions of greenhouse gases from natural resources

Short description: This indicator shows the annual net amount of greenhouse gas emissions from land use, land use change, forestry, agriculture and waste sectors and the use of fluorinated gases to be able to understand the changes in greenhouse gas emissions from natural resources.

25 Year Environment Plan goal & target: Mitigating and adapting to climate change - Continuing to cut greenhouse gas emissions including from land use, land use change, the agriculture and waste sectors and the use of fluorinated gases. The UK Climate Change

Act 2008 commits us to reducing total greenhouse gas emissions by at least 80 per cent by 2050 when compared to 1990 levels.

Type: **Pressure**

If asset which: N/A

Status: 1, already [published](#).

EU and other international reporting links: UNFCCC and EU regulations i.e. LULUCF and Effort Share Regulation

Geographical scope: England

H37 Proportion of products imported from overseas that are certified as being from sustainable sources

Short description: This indicator will help inform our impact on the environment overseas resulting from our domestic consumption, and the sustainability of the products we import. It will measure change in the proportion of products imported that are certified as being from sustainable sources. Initial development could focus on timber, fish, palm oil and /or peat, with further extension dependent on data availability. 25 Year Environment Plan goal & target: There are no specific goals in the 25 Year Environment Plan for this indicator, however the Plan commits us to leaving a lighter footprint on the global environment by enhancing sustainability and supporting zero deforestation supply chains.

Type: **Service/benefit**

If asset which: N/A

Status: 5

EU and other international reporting links: Convention on Biological Diversity

Geographic scope: UK

H38 The value of ecosystem services generated and protected, in developing countries with UK support

Short description: Linked to support provided by the International Climate Fund, the indicator will show the value of ecosystem services generated and protected, in developing countries. This will speak to how we are helping Developing Countries to mitigate climate change, halt the loss of biodiversity and alleviate poverty. A separate indicator on UK support for climate change mitigation may be added.

25 Year Environment Plan goal & target: There are no specific goals in the 25 Year Environment Plan for this indicator; however the Plan commits us to helping developing nations protect and improve the environment.

Type: **Asset condition**

If asset which: Woods; water; mountain, moor and heath; seas

Status: 5

EU and other international reporting links: Convention on Biological Diversity

Geographic scope: Overseas

H39 Status of endemic and globally threatened species in the UK Overseas Territories

Short description: Our Overseas Territories are home to rich, globally important biodiversity, with many species found nowhere else in the world; this indicator will track change in the status of key endemic and globally threatened species found in the Overseas Territories.

25 Year Environment Plan goal & target: There are no specific goals in the 25 Year Environment Plan for this indicator, but the Plan commits us to taking action to 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 the Overseas Territories.

Type: **Asset condition**

If asset which: Farms; mountain, moor and heath; woods; seas

Status: 3

EU and other international reporting links: Convention on Biological Diversity

Geographic scope: UK Overseas Territories

H40 Extent and condition of terrestrial and marine protected areas in the UK Overseas Territories

Short description: The UK overseas territories are home to a variety of spectacular marine and terrestrial ecosystems. This indicator will show changes in the area of designated protected areas in the Overseas Territories, and aspects of their condition that can be assessed cost-effectively.

25 Year Environment Plan goal & target: There are no specific goals in the 25 Year Environment Plan for this indicator, but the Plan commits us to develop new techniques to manage protected areas in the OTs, and work with the OTs to continue the implementation of the Blue Belt programme.

Type: **Asset condition**

If asset which: Seas; woods; mountain, moor and heath

Status: Extent 2; Condition 5

EU and other international reporting links: Convention on Biological Diversity

Geographic scope: UK Overseas Territories

Part B Other system indicators

S1 Roadside nitrogen dioxide (NO₂) compliance

Short description: This indicator will track changes in roadside (NO₂) concentrations compared to EU limit values.

25 Year Environment Plan goal & target: Clean air

Type: **Asset condition**

If asset which: Air; towns and cities

Status: 2

EU and other international reporting links: EU National Emission Ceilings Directive

Geographical scope: England

S2 Rural background concentrations of ozone (O₃)

Short description: This indicator will track changes in rural ozone (O₃) concentrations.

25 Year Environment Plan goal & target: Clean air

Type: **Asset condition**

If asset which: Air

Status: 1

EU and other international reporting links: EU Emissions Reductions Commitments for precursor pollutants.

Geographical scope: England

S3 Impacts of nutrient nitrogen (NO_x and NH₃) deposition on ecosystems

Short description: Assessing the reduction in magnitude and extent of critical loads for reactive nitrogen (NO_x and NH₃) across sensitive habitats in the UK.

25 Year Environment Plan goal & targets: Clean air

Type: **Pressure**

If asset which: N/A

Status: 1

EU and other international reporting links: EU Emissions Reductions Commitments (ERCs).

Geographical scope: England

S4 UK emissions for five key air pollutants

Short description: This indicator shows changes in the emissions of the five key air pollutants in the UK: sulphur dioxide (SO₂), fine particulate matter (PM_{2.5}), nitrogen oxides (NO_x), volatile organic compounds (VOC) and ammonia (NH₃).

25 Year Environment Plan goal & target – Clean air

Type: **Pressure**

If asset which: Air

Status: 1

EU and other international reporting links: EU Emissions Reductions Commitments (ERCs).

Geographical scope: UK

S5 - Pollution loads entering waters

Short description: Pollutant loads entering or in waters: Combined Sewer Overflows (CSOs), nitrates, phosphates, hazardous chemicals

25 Year Environment Plan goal & target: Clean and plentiful water

Type: **Pressure**

If asset which: N/A

Status: 2

EU and other international reporting links: OSPAR Convention, EU Water Framework Directive.

Geographical scope: England

S6 - Serious pollution incidents to water

Short description: Category 1 and 2 serious pollutions to water (two highest pollution incident categories)

25 Year Environment Plan goal & target: Clean and plentiful water

Type: **Pressure**

If asset which: N/A

Status: 1, [published](#)

EU and other international reporting links:

Geographical scope: England

S7 - Municipal waste recycling rates

Short description: This is an indicator capturing the municipal recycling rate and is a part of the overall total of waste that needs to be counted for recycling. This indicator

reflects levels of waste minimisation and re-use that reduce the level of residual non-recycled waste.

25 Year Environment Plan goal & target – working towards our ambition of zero avoidable waste by 2050.

Type: **Pressure**

If asset which: N/A

Status: 6 – ready to go pending development of a more sophisticated metric.

EU and other international reporting links: WasteDataFlow www.wastedataflow.org/

Geographic scope: England

S8 Percent of seabed subject to high pressure from human activity

Short description: The indicator is derived from maps showing the intensity of human activity on the seabed. Pressure layers are combined to create a single layer. The indicator is linked to the OSPAR indicator of seabed damage. .

25 Year Environment Plan goal & target: Thriving plants and wildlife - Ensuring seafloor habitats are productive and sufficiently extensive to support healthy, sustainable ecosystems.

Type: **Pressure**

If asset which: N/A

Status: 2

EU and other international reporting links: OSPAR Convention, MSFD

Geographic scope: England

S9 Diverse seas: threatened and declining features conserved

Short description: Habitats and species identified as requiring protection under existing national or international agreements are conserved. The indicator refers to 'special' features including OSPAR Threatened & Declining features, NERC Act Section 41 habitats & species etc. It is also linked to indicators being developed under MSFD Descriptor 1 Biodiversity. The overall indicator will be derived from the status of the individual features.

25 Year Environment Plan goal & target: Thriving plants and wildlife - Reversing the loss of marine biodiversity and, where practicable, restoring it

Type: **Asset condition**

If asset which: Seas

Status: 4 (5 for some features with limited data)

EU and other international reporting links – OSPAR Convention, MSFD, Habitats & Birds Directives, Convention on Biological Diversity.

Geographic scope: England

S10 Healthy seas: sea-floor habitats functioning

Short description: The natural functionality and extent of Sea-floor habitats to support a healthy and productive ecosystem. The indicator is linked to UK interpretation of MSFD Descriptor 6 Seafloor integrity. The indicator will be derived from the integration of indicators of individual broad habitat types and selected vulnerable habitats. Sea-floor habitats (physically and structurally) are both productive and sufficiently extensive, to carry out natural functionality, including the necessary ecological processes which underpin ecosystem goods and services, and are capable of supporting a healthy and sustainable ecosystem for the long term. Targets are set to assess the extent of deterioration from human activities.

25 Year Environment Plan goal & target: Thriving plants & wildlife - Ensuring seafloor habitats are productive and sufficiently extensive to support healthy, sustainable ecosystems

Type: **Asset condition**

If asset which: Seas

Status: 2 (for those based on WFD intertidal tools and modelled based indicators) and 4 or 5 (depending on habitat type and data availability)

EU and other international reporting links: OSPAR, MSFD, WFD, Habitats & Birds Directives

Geographic scope: UK

S11 Productive seas: fish & shellfish stocks safe and environmentally sustainable

Short description: Proportion of commercial fish and shellfish stocks within safe biological limits and fished sustainably. The indicator is linked to MSFD Descriptor 3 (Commercial Fish) and OSPAR indicators. The indicator will be derived from assessments of individual species together with further indicators assessing effect of fishing activity on wider environment. Where available, the assessment of stocks against their MSY will be incorporated into the overall indicator.

25 Year Environment Plan goal & target: Using resources from nature more sustainably and efficiently - Ensuring that all fish stocks are recovered to and maintained at levels that can produce their maximum sustainable yield.

Type: **Asset condition**

If asset which: Seas

Status: 3

EU and other international reporting links: OSPAR, MSFD, CBD

Geographic scope: UK

S12 Productive seas: sensitive fish and shellfish stocks safe

Short description: The abundance, distribution and condition of fish & shellfish species at-risk of depletion. The indicator is linked to MSFD Descriptor 1 biodiversity and OSPAR indicators. The indicator will be derived from individual species assessments; note that some species may also be included in S9 . The indicator will be assessed to account for the expected status in line with prevailing environmental conditions and not adversely impacted by human activity.

25 Year Environment Plan goal & target: Using resources from nature more sustainably and efficiently - Ensuring that all fish stocks are recovered to and maintained at levels that can produce their maximum sustainable yield.

Type: **Asset condition**

If asset which: Seas

Status: 3

EU and other international reporting links: OSPAR, MSFD, CBD

Geographic scope: UK (potentially England)

S13 Clean seas: marine litter

Short description: Impact of litter on marine environment, wildlife, and seafood. The indicator is based on MSFD Descriptor 10. Litter is a generic term that includes micro particles alongside macro items. Beach litter surveys are completed and reported annually and cover a representative number of beaches.

25 Year Environment Plan goal & target – Minimising waste

Type: **Pressure**

If asset which: Seas

Status: 3

EU and other international reporting link: MSFD

Geographic scope: England

S14 Invasive non-native species in the UK Overseas Territories

Short description: The number of successful eradications of invasive species in the UKs Overseas Territories as a measure of reducing pressure on globally threatened and endemic native species.

25 Year Environment Plan goal & target: There are no specific goals in the 25 Year Environment Plan for this indicator, but the Plan commits us to taking action to 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 the Overseas Territories and working with partners to raise awareness of invasive non-native species and the need for strong biosecurity.

Type: **Pressure**

If asset which: N/A

Status: 3

EU and other international reporting links – CBD (for 6 OTs only); Sustainable Development Goals

Geographic scope: UK Overseas Territories

S15 Degree of naturalness of waters and wetlands

Short description: Trends in natural morphology and underlying hydrological and water quality processes and a lack of invasive species across the whole water ecosystem (including e.g. river headwaters, wetlands, standing waters)

25 Year Environment Plan goal & target: Enhancing beauty, heritage and engagement with the natural environment; clean and plentiful water; enhancing biosecurity

Type: **Asset condition**

If asset which: Water

Status: 3.

EU and other international reporting links: EU Habitats Directive.

Geographic scope: England

S16 Area of woodland in England

Short description: Area of woodland in England (thousands of hectares). Woodland is defined as land under stands of trees with a minimum area of 0.5 hectares (i.e. 5,000m²) and a canopy cover of at least 20%, or having the potential to achieve this. The definition relates to land use, rather than land cover, so integral open space and areas of felled trees that are awaiting restocking (i.e. replanting) are included as woodland.

25 Year Environment Plan goal & target: Using resources from nature more sustainably and efficiently; Thriving plants and wildlife

Type: **Asset condition**

If asset which: Woods

Status: 1, existing annual publications in [Forestry Commission Indicators Report](#)

EU and other international reporting links: Reported to the United Nations Food and Agriculture Organisation (UN FAO) for its regular Forest Resources Assessment (FRA), and to Forest Europe for reporting to the Ministerial Conference on the Protection of Forests in Europe and publication in the State of Europe's Forests (SOEF).

Geographic scope: England

S17 Consumer buying choices

Short description: An indicator to determine consumer led change on issues such as single use plastics, composite packaging etc. It would have to be based on market intelligence data (i.e. reduction in single use plastic carrier bags) and the effectiveness of supporting policies.

25 Year Environment Plan goal & target: Minimising waste - Working towards our ambition of zero avoidable waste by 2050

Type: **Pressure**

If asset which: N/A

Status: 5 – likely to require significant development, data protection etc.

EU and other international reporting links – N/A

Geographic scope: England

S18 Developing countries better able to effectively counter illegal wildlife trade as a result of UK support

Short description: Cumulative total of projects supporting communities, agencies and governments in developing countries to better enable them to more effectively address illegal killing & trade in wildlife.

25 Year Environment Plan goal & target: There are no specific goals in the 25 Year Environment Plan for this indicator, but the Plan commits us to continue to provide targeted financial help to developing nations in order to manage biodiversity and tackle the illegal wildlife trade.

Type: **Pressure**

If asset which: N/A

Status: 5

EU and other international reporting links – Links to the International Consortium on Combatting Wildlife Crime (ICWC) – which includes CITES, UN Office on Drugs and Crime, Interpol, World Customs Union, and the World Bank. CITES Illegal trade report (based on seizures) is annual.

Geographic scope: Overseas

S19 Numbers of people in developing countries supported to cope with the effects of climate change with UK support

Short description: Linked to support provided by the International Climate Fund, the metric will show numbers of people in developing countries supported to cope with the effects of climate change. This will speak to how we are helping developing countries to mitigate climate change and alleviate poverty.

25 Year Environment Plan goal & target: There are no specific goals in the 25 Year Environment Plan for this indicator; however the Plan commits us to helping developing nations protect and improve the environment.

Type: **Service/benefit**

If asset which: N/A

Status: 1. [Data is released](#) publically on an annual basis.
EU and other international reporting links: Convention on Biological Diversity
Geographic scope: Overseas

S20 Total income from farming

Short description: One of the standard measures of profitability is Total Income from Farming. This shows the total profit from all UK farming businesses on a calendar year basis. It measures the return to all entrepreneurs for their management, labour and capital invested. In very simplistic terms it is the profit of 'UK Farming plc'.

25 Year Environment Plan goal & target: Using resources from nature more sustainably and efficiently - Ensuring that food is produced sustainably and profitably.

Type: **Service/benefit**

If asset which: N/A

Status: 1

EU and other international reporting links: [EU](#)

Geographical scope: UK and England (note there is a time delay between UK estimates and England)

S21 Volume of timber brought to market from a) the public forest estate, and b) other English sources

Short description: Volume of timber brought to market per annum from a) the Public Forest Estate, and b) other English sources ((in thousands of green tonnes). The indicator provides information of the quantity of timber provided from English domestic woodlands, by Forest Enterprise England, and other owners of woodland in England. It is one indication of the level of active management of woodland for economic productive purposes.

25 Year Environment Plan goal & target: Using resources from nature more sustainably and efficiently - Increasing timber supplies.

Type: **Service/benefit**

If asset which: N/A

Status: 1, [Existing annual publications in Forestry Commission Indicators Report](#)

EU and other international reporting links: Ministerial Conference on the Protection of Forests in Europe and publication in the State of Europe's Forests (SOEF).

Geographic scope: England

S22 Number of high priority forest pests in the UK Plant Health register

Short description: Number of high priority forest pests in the UK Plant Health Risk Register. 'High priority' pests and diseases are defined for the purposes of this indicator as those with a mitigated relative risk rating (the mitigated likelihood score multiplied by the mitigated impact score) of 15 or more. Relative risk ratings can have values from a minimum of 1 to a maximum of 25. The number of the indicator can change where the risk posed by specific pests and diseases is re-assessed, or new forest pests and diseases are identified. The indicator includes pests and diseases present in the UK as well as those not present in the UK. 25 Year Environment Plan goal & target: Enhancing biosecurity

Type: **Pressure**

If asset which: N/A

Status: 1 (already published for forest pests, 2 for other pests and diseases), [Existing quarterly publications in Forestry Commission Headline Indicators Updates](#)

EU and other international reporting links: N/A
Geographic scope: UK

S23 Abundance and distribution of priority species

Short description: This is made up of two components: 1) changes in relative abundance of priority species in the UK for which data are available. 2) Distribution - measuring changes in the number of 1km grid squares across the UK in which priority species were recorded in any given year. Priority species are defined as those on one or more of the biodiversity lists of each UK country. Would require an England cut of the UK biodiversity indicators.

25 Year Environment Plan goal & target: Thriving plants and wildlife - Taking action to 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.

Type: **Asset condition**

If asset which: Woods; farms; mountain, moors and heath; towns and cities; seas

Status: 1 for UK; 4 for England. [England Biodiversity Indicators](#).

EU and other international reporting links: Convention on Biological Diversity

Geographic scope: UK (but could be developed for England)

S24 Health of freshwaters assessed through fish stocks

Short description: Fish stocks are a good indicator of healthy freshwater environments, including sufficient water quality (including temperature) and quantity, as well as healthy and diverse river habitats, to sustain healthy juvenile populations and enable adults to migrate throughout the river to spawn. This indicator will build on assessments currently undertaken for salmon including other freshwater fish species for which consistent data are available.

25 Year Environment Plan goal & target: Thriving plants and wildlife; clean and plentiful water

Type: **Asset condition**

If asset which: Water; seas

Status: 3, [Annual national salmon stock assessment reporting](#)

EU and other international reporting links: This includes reporting to International Council for the Exploration of the Seas and the /North Atlantic Salmon Conservation Organisation.

Geographical scope: England

S25 Landscape impacts of agri-environment schemes at the National Character Area scale

Short description: This indicator seeks to look at the maintenance and improvement to landscape character and quality through land management contributions of agri-environment schemes (currently Countryside Stewardship). It includes metrics on field patterns and boundaries, traditional farm buildings, semi-natural habitats, agricultural land use, historic environments and woodland/tree cover.

25 Year Environment Plan goal & target: Enhancing natural beauty, heritage and engagement

Type: **Asset condition**

If asset which: Farms; woods; mountain, moor and heath

Status: 3 - 4 (Baseline is set but would need a repeat survey)

EU and other international reporting links: There is a link to the reporting of UK landscape assessment and monitoring activities that contribute to the aims and objectives of the European Landscape Convention.
Geographic scope: England



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