

# Natural Capital Committee

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**Annual Report 2018**

Fifth report to the Economic Affairs Committee

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## Chairman's message

The last year has seen great strides in developing the natural capital agenda, and I am delighted that six years of hard work and advice from the Natural Capital Committee (NCC) has played a decisive role in the publication of the 25 Year Environment Plan.

Following on from the commitment in the 2011 White Paper, *The Natural Choice*<sup>1</sup> to be “...*the first generation to leave the natural environment of England in a better state than it inherited...*”, the NCC proposed a 25 year plan to turn these aspirations into a concrete programme. The NCC also proposed that the concept of natural capital be tried out in core environmental contexts; notably catchment, city, landscape and marine settings. The NCC has been instrumental in building the conceptual and empirical bases upon which the major political parties all committed themselves at the 2015 general election to publishing a 25 year plan.

During 2017, the NCC carried on with the detailed and crucial building blocks: notably with the Office for National Statistics in developing national natural capital accounts; with the Treasury in refining the Green Book; and with DEFRA in developing the metrics to determine long term outcomes. The NCC was formally asked by the Secretary of State to deliver advice on the drafting of the Plan. The NCC is pleased to see all bar one of our recommendations adopted in the Plan. The remaining recommendation – on the need to legislate to embed the Plan and to provide credibility – is outstanding. I would like to take this opportunity to reiterate that without legislation, there is a very real danger that the aspirations in the Plan will get diluted.

I am also very pleased to see that the critical institutional questions that arise in delivering the Plan have begun to be addressed, as the NCC advised. In 2018, there is much to do in developing the tentative proposals in the Plan. This will need to be done alongside the major opportunity of developing the post CAP framework for agriculture; switching from farm payments on an area basis to public money for public goods, concentrated on the environment. The Committee will comment on the substance of the 25 Year Environment Plan in due course.

The NCC continues to deliver way beyond the commitments the members entered into. I would like to thank my fellow members for all their hard work, and in responding to tight deadlines. The NCC has again been wonderfully supported by its small secretariat: Henry Dieudonné-Demaria, Sophie Fraenkel, John Ayre and Vladimir Novatchev. Nick Barter and Julian Harlow, in their leadership of the drafting of the 25 Year Environment Plan, have continued to be a great source of support and help to the NCC. The payoff for all the hard work has been worth it!

**Dieter Helm**

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<sup>1</sup> <https://www.gov.uk/government/publications/the-natural-choice-securing-the-value-of-nature>

## The year in summary

Over the past year, the Committee has been active across a range of areas to deliver on its Terms of Reference<sup>2</sup>. Not all are summarised here, but the main ones include:

1. Providing advice to the Secretary of State for Defra, following a formal request, on the approach to developing and implementing the 25 Year Environment Plan<sup>3</sup>. We are delighted that the Government has issued an initial version of the Plan;
2. Working closely with the Government's four Pioneer Projects (test beds in the application of a natural capital approach in practice), providing advice and guidance through the first version of the How To Do It Workbook<sup>4</sup>;
3. Producing guidance on the valuation of natural capital and the ecosystem services it provides<sup>5</sup> and working with HM Treasury and Defra to incorporate this into public sector appraisal guidance such as the Green Book;
4. Working with the Office for National Statistics (ONS) and Defra to support the development of national natural capital accounts;
5. Starting the work to appraise suitable metrics, models, datasets and tools to aid the measurement of natural capital and how it is changing over time. This has involved close working with Defra's Environment Analysis Unit as well as other technical groups outside government.

All such activity is necessary and timely if the loss and degradation of natural capital is to be halted soon. Evidence of the escalating pressures on and degradation of natural capital coincide with a growing appreciation of the significance and irreplaceability of natural capital for society and for the economy.

In addition to the above, the Committee has continued its regular schedule of meetings throughout the year, minutes of which are available online<sup>6</sup>.

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<sup>2</sup> [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/517123/ncc-terms-of-reference.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/517123/ncc-terms-of-reference.pdf)

<sup>3</sup> <https://www.gov.uk/government/publications/25-year-environment-plan>

<sup>4</sup> [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/608852/ncc-natural-capital-workbook.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/608852/ncc-natural-capital-workbook.pdf)

<sup>5</sup> [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/608850/ncc-natural-capital-valuation.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/608850/ncc-natural-capital-valuation.pdf)

<sup>6</sup> <https://www.gov.uk/government/groups/natural-capital-committee#minutes-of-meetings>

## Progress on the 25 Year Environment Plan

In its 2015 Annual Report the Committee urged the Government to develop a 25 year plan for improving the natural environment and restoring its capital. In its 2017 Annual Report, the Committee emphasised the importance of rapid progress in developing and delivering this plan if the Government's aims of this being the first generation to leave the environment in a better state than the one it inherited were to be met against a backdrop of falling stocks of national natural capital.

We are delighted that the Government has met its commitment to produce an initial 25 Year Environment Plan.

The Committee's advice to the Secretary of State for Defra on the Plan, submitted in September 2017, is annexed to this report. It built upon the Committee's earlier recommendations, notably:

- The key elements of a natural capital approach, i.e. the methodology as set out in the first State of Natural Capital Report;
- Approaches to developing natural capital metrics and how to consider threshold properties, both in terms of assets and benefits, as set out in the Committee's second report;
- The need for strong foundations to drive long term (i.e. 25 year) action which was set out in the Committee's third report.

The Committee's advice highlighted that, for the 25 YEP to succeed, it needs: a clear **vision** for the environment in 25 years' time; a set of actions and associated **investments** to deliver this vision; credible and measurable **milestones**; and robust **governance** to oversee implementation.

The Committee advised that the Plan should be based upon the principles of a natural capital approach. This would bring established economic and accounting methods for public and private assets together with the best natural science understanding. It recognised that it must be the responsibility of Defra to lead the development of the Plan, on behalf of the whole of the Government, so that the Plan joined seamlessly with other Government initiatives, such as the Industrial Strategy and the Clean Growth Plan.

In addition, local councils, private industry, the voluntary sector, NGOs and researchers would also have a key role to play. Overall, the Committee noted that the Plan represented a huge economic and social opportunity that could genuinely transform the natural environment, support the growth of the economy, allow citizens to reconnect with the health, wellbeing, spiritual and educational benefits of interacting with nature, and gift our children a richer, better and more resilient natural inheritance. With a natural capital approach, the environment

would no longer be regarded as an obstacle to development. Rather, a healthy environment would be fully recognised as a necessary condition of sustainable economic growth.

We are pleased to see that much of our advice has been taken on board. The 25 Year Environment Plan, published by the Government on 11<sup>th</sup> January 2018, is an excellent starting point. But it is just the beginning. An urgent priority for the Government now should be to determine what 'outcome metrics' to use to record progress towards the 25 year goals. The Committee will continue to advise government on this issue.

## The Pioneer Projects

Following a recommendation by the NCC, the Government announced in July 2016 four Pioneer projects to test the implementation of a natural capital approach in practice. The four projects (across five locations) include a river catchment (Cumbria), an urban area (Manchester), a landscape based area (north Devon) and marine areas (Devon and Suffolk). The purpose of the Pioneers is to identify lessons from the practical application of a natural capital approach in a variety of environmental contexts.

Over the past year, the Committee has engaged with the Pioneer projects on a one-to-one basis (with individual members offering support at a project level, and through the whole Committee meeting with Pioneer leads and stakeholders).

A number of lessons have been identified through these interactions, including the need for clear leadership at the project level; and for high level joint commitment and endorsement by the respective lead organisations (Natural England, Environment Agency and the Marine Management Organisation), including through working together. As there is presently no additional funding for the Pioneers, a willingness to pool existing resources and funding in new ways and to modify prior plans, including through more integrated approaches, will be vital to determining the success or otherwise of these projects.

Just as with the 25 Year Environment Plan, clear outcomes and objectives are needed at the individual Project level to describe what success looks like. These need to be evidence based; which in turn will assist with the task of determining priority actions and ‘investments’ for each of the project areas. The Committee also advises that locally and nationally significant natural capital assets need to be identified with a view to compiling: a natural capital asset register; an associated risk register for those assets; and a natural capital account for each of the projects. In the first instance, this can be a simple balance sheet of assets and liabilities, the capital maintenance required to maintain the assets and the dependencies between the various natural assets. More detail is set out in the Committee’s ‘How To Do It Workbook’<sup>7</sup>.

In 2018, there will need to be an increased focus on how lessons identified from the Pioneers can support implementation and delivery of the 25 Year Environment Plan.

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<sup>7</sup> [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/608852/ncc-natural-capital-workbook.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/608852/ncc-natural-capital-workbook.pdf)

## Valuation, investment and the Green Book

### The Green Book

As the 2011 White Paper<sup>8</sup> made clear, the environment is an integral part of the economy. The Committee has long recommended that the Government needs to do more to incorporate natural capital into the appraisal and decision making processes for public policies and investment.

Over the past year the NCC has worked with HM Treasury to provide input to the process of revising 'The Green Book: Appraisal and Evaluation in Central Government'. As its title suggests, the Green Book provides the principal guidelines regarding the appraisal of investments undertaken by the Government and its departments. As such, it has the capacity to become a major driver for the incorporation of environmental concerns within public policy decisions. More fundamentally, the global status of the Green Book means that its guidelines influence both public and indeed private investment internationally.

In discussions with HM Treasury, the NCC has recommended that the revised Green Book should include recognition of the following:

- (i) Natural capital stocks need to be assessed. Investment projects which allow stocks of renewable natural capital to decline below levels where they can renew themselves impose both additional costs on future generations and also a potentially dramatic reduction in present or future services;
- (ii) Consideration needs to be given to the cumulative effects that multiple projects can have upon stocks of natural capital;
- (iii) If stocks of non renewable natural capital are exhausted without adequate reinvestment in other resources for the future, additional costs are imposed upon subsequent generations.
- (iv) Assessments must allow for changes in the baseline (i.e. what would happen in the absence of investment) over time due to ongoing environmental pressures such as climate change;
- (v) The need to appraise all of the 'use' and 'non use' values associated with change in natural capital is reaffirmed. These appraisals need to reflect the fact that the magnitude of change and its effect can vary substantially between locations;
- (vi) Similarly, the need to consider multiple options when appraising government investments is reemphasised.

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<sup>8</sup> <https://www.gov.uk/government/publications/the-natural-choice-securing-the-value-of-nature>



## Valuation

In developing natural capital from an analytical concept into a practical tool for environmental decision making and management, the NCC has undertaken a number of initiatives during 2017. Much of the feedback we have had from those wishing to adopt natural capital as an approach has been around the need for clear guidance on how to value natural capital; how to use those values to inform investment decisions; and how to take forward those decisions in a strategic fashion.

In April, we published **our guide to natural capital valuation**<sup>9</sup>. Many of the goods and services that people obtain (either wholly or in part) from natural capital (e.g. clean air, flood control, woodland walks) are not supplied by private firms through markets. The lack of meaningful or observable prices results in the value of natural capital benefits being frequently overlooked or ignored in decision making.

The Committee's guide provides a valuation framework for directly addressing this problem through:

- Determining priorities for investments in natural capital;
- Articulating the actions necessary to (i) achieve improvements in natural capital being targeted; (ii) avoid deterioration; or (iii) compensate for losses;
- Measuring overall progress with objectives to protect and improve natural capital (including at the aggregate level).

Alongside this, the Committee published detailed practical guidance in ***How To Do It – a Natural Capital Workbook***. This presents an approach to planning and implementing environmental improvement in a particular area in a strategic way, using a natural capital framework. It sets out the means to enable practitioners to:

- Measure both the natural capital in a particular area and the benefits it can provide;
- Identify threats and opportunities to natural capital;
- Weigh up the available options and opportunities to make improvements;
- Develop practical plans.

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<sup>9</sup> [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/608850/ncc-natural-capital-valuation.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/608850/ncc-natural-capital-valuation.pdf)

Similarly, the Committee has maintained a close and constructive dialogue with relevant independently advising the Government in this space; most notably the **National Infrastructure Commission** and the **Committee on Climate Change**.

## National Natural Capital Accounting – working with ONS and Defra

The Committee continues to view the development of national natural capital accounts as a critical step towards better measurement of natural capital change over time.

Over the past year, the NCC has continued to work closely with ONS and Defra, via the Steering Group, to develop these accounts, which are scheduled for completion in 2020.

Good progress continues to be made, notwithstanding the following issues:

1. The aggregate natural capital estimates (estimates of the stock value of UK natural capital assets) at present only cover a part of the total value of assets. Whilst ONS has a programme of work to extend the coverage, the figures will remain partial; and difficult conceptual questions mean that some elements will take more time to include. This makes it important for all natural capital reporting to communicate clearly what the statistics do and do not include, and how to interpret them as defined in current statistical conventions.
2. Reaching the 2020 target for completion will be challenging due to significant data gaps, including the growing demand for spatial disaggregation of the information contained in the accounts.

From the NCC perspective, what is important is being able to evaluate changes in volumes and values of components of natural capital, changes at the aggregate level; and also the restoration costs involved in preserving and protecting natural capital, so that capital maintenance requirements can be reliably estimated where appropriate.

Creating national natural capital accounts that are sufficiently robust to be useful for policy making purposes by 2020 remains challenging. The Committee have strongly recommended, given the importance of this exercise to the economy and environment, that appropriate resources and support be made available to the ONS and Defra team to fulfil the UK's commitment to deliver on this, thereby maintaining our position as a world leader.

## NCC priorities for 2018

The Committee has identified the following priorities for the coming year:

- Following the launch of the Government's **25 Year Environment Plan**, our attention will move to supporting the Government to shape and refine what will inevitably be a living document. In particular, determining a set of outcome metrics for the Plan and appropriate governance arrangements to ensure accountability and transparency should be considered priorities. We will also continue to support delivery partners in working towards the Plan's goals. As the Committee moves from advising on methodological issues towards supporting implementation, 2018 will also see the Committee placing greater emphasis on provision of more detailed advice: to Defra; to other government departments; and internationally; on specific issues as required, for example, the role of 'nature based' solutions in delivering against the 25 YEP goals.
- In 2018 the **Pioneer Projects** should move from their initial start up phase to become an integral part of delivering the Plan. In light of this, the Committee will further refine its advice on how the potential of the Pioneers can best be realised; helping them and Defra to assess performance and identifying opportunities; and crucially to consider the wider application of lessons learned.
- Following on from its previous recommendations, the Committee will continue to engage with **HM Treasury** to further embed natural capital at the core of the Green Book. This will be assisted by a number of papers that the Committee will produce: a clear exposition of what the Committee views the correct natural capital approach to be; consideration of the roles and responsibilities of relevant institutions; and development of principles behind metrics and measurement, culminating in advice on the set of metrics which the 25 Year Environment Plan should use.
- With 2018 being a crucial year in determining whether the **ONS and Defra** will be able to meet the 2020 deadline for producing a comprehensive set of national natural capital accounts, the NCC will continue to provide close support, noting that the initial analyses of restoration costs suggest considerable potential from this approach to measure natural capital.

In addition, there are a number of areas of emerging policy where the NCC expects it may be called upon to provide advice:

- Development of a post Brexit agricultural policy to replace the EU Common Agricultural Policy. The NCC believes that there is a unique opportunity to produce a new policy which greatly enhances natural capital while providing improved incomes for most farmers and better value for money for taxpayers. The Committee stands ready to advise on this matter ahead of the proposed Agriculture Bill later in the year.

- Development of an alternative to the EU Common Fisheries Policy, as will be taken forward in the proposed Fisheries Bill.
- A series of methodological papers on natural capital valuation. These will develop those already published by the NCC, seeking to align accounting and more traditional economic appraisal methodologies.

## Annex 1: The Natural Capital Committee's Terms of Reference

### Background

The Government is establishing the Natural Capital Committee (NCC) for the duration of this Parliament (through to September 2020), to provide it with independent advice on protecting and improving natural capital. The Government's ambition is to improve the environment within a generation, so that England has the best environment and is one of the most beautiful places in the world to live, to work and to bring up a family.

We are working with the Government to develop a 25 Year Environment Plan to deliver this vision; to empower people, businesses and the third sector to protect and improve the environment; taking into account the use of data, tools, new technologies and techniques. The Government has a large number of environmental data sets which others could utilise to achieve positive environmental outcomes.

The initial phase of the NCC concluded on 30<sup>th</sup> September 2015 and the Committee successfully met its Terms of Reference in full. It provided advice to the Government on three main issues:

1. The unsustainable use of natural assets;
2. How action to protect and improve natural capital should be prioritised;
3. Research priorities.

### The role of the Committee

Over this Parliament, the Government requires advice from the NCC on the development and implementation of the 25 Year Environment Plan, which the NCC itself recommended. The Committee, therefore, will move into a new phase of work to help inform the plan's development.

The new NCC will be vital in driving forward the next stage of natural capital work in England. This will include playing a key role in advising the Government on environmental assets at risk and ways of identifying priorities for improvement where the benefits are greatest, building on its work of the last three years. To do this, the Committee will need to make use of appropriate knowledge, tools and techniques to ensure natural capital can be properly and consistently assessed, valued and accounted for in decision-making and economic planning. There should be a strong focus on embedding the use of open data, tools and techniques to facilitate positive action on the environment across the country, and consideration of national (England wide) and local delivery.

The Committee will advise on the importance of natural capital to sustainable economic growth, health and wellbeing and identify potential actions that could be taken to boost these.

The Committee will continue working with the Government and the Office for National Statistics to develop national natural capital accounts and work with businesses to develop and

apply corporate natural capital accounts, recognising that much of our natural capital is privately owned. It will consider the international dimensions of natural capital in formulating its advice where appropriate. The Committee will also advise the National Infrastructure Commission to ensure that 'green and blue infrastructure' is appropriately considered within wider infrastructure discussions.

The NCC will continue to report to the Economic Affairs (EA) Committee of the Cabinet.

Specifically, the Committee will advise Government and its delivery bodies on the development and implementation of an integrated 25 Year Environment Plan to protect and improve our natural capital; making use of appropriate knowledge and tools to identify priority assets for protection and improvement.

In doing so, it should have particular regard to:

- Advising the Government on how national environmental priorities could be delivered in partnership with the private, public and third sectors, including local community endeavours;
- Providing practical advice to the Government on how people and businesses can reconnect with nature;
- The development of suitable metrics to be used to track progress against the Plan's objectives and benchmarking the English environment with the rest of the world;
- Advising Government on progress against the Plan.

The Committee may:

- Produce and publish occasional reports to the Economic Affairs Committee;
- Provide responsive, ad-hoc advice if requested by the Secretary of State for the Environment on behalf of the Economic Affairs Committee;
- Provide advice to Ministers in confidence.

The Committee may not:

- Perform a watchdog or advocacy role with respect to Government policy;
- Be policy prescriptive in its advice or publicly comment on specific projects, unless requested by the Secretary of State for the Environment (or by the EA Committee via the Secretary of State);
- Make decisions on classifications or statistical standards.

### Committee set-up and structure

The Committee will be set up as an ad-hoc independent advisory body to the Government, comprising a Chair and members with expertise in the fields of economics, natural and social sciences, accounting, statistics, data, technical and both local and national delivery. Members

of the Committee will be widely recognised as leading experts in their respective fields and have been appointed and perform on the basis of their professional background as opposed to representing any stakeholder interests. Members are expected to act in accord with the principles of public life.

The Committee will be supported in its work by a secretariat based in Defra. It may also set up expert working groups or rely on existing groups to take forward its work.



# Natural Capital Committee

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## **Advice to Government on the 25 Year Environment Plan**

**September 2017**

Minor revision 31 January 2018 for formatting and typographical issues.

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## Introduction

The Secretary of State for Defra asked the Natural Capital Committee (NCC) to advise on what the 25 Year Environment Plan should aim to achieve, how it should seek to do so and what the necessary conditions for success are. This note sets out the NCC's advice and recommendations on what the Government should consider when drawing up the Plan, building on the Committee's previous recommendations over the past 5 years.

In its 2011 White Paper, *The Natural Choice*<sup>10</sup>, and repeated in successive manifestos, the Government has stated it wishes to be "*the first generation to leave the natural environment of England in a better state than it inherited...*". The NCC was set up to advise on how to deliver this objective and recommended that government produce a comprehensive Plan. The Committee also recommended a number of 'Pioneer Projects' to explore the challenges and opportunities raised in implementing a natural capital approach in practice, focusing on river catchments (Cumbria), urban areas (Manchester), landscapes (North Devon) and marine areas (Devon and East Anglia). The NCC has commented on the lack of progress with the Plan since 2015 and stressed the urgency for the Government to develop and publish an initial version of the Plan.

A good plan requires: a clear **vision** for the environment in 25 years' time; a set of actions and associated **investments** to deliver this vision; credible and measurable **milestones**; and robust **governance** to oversee implementation. The acid test for the Plan is whether these building blocks are put in place. The NCC's advice addresses each of these in turn.

The Plan should be based upon the principles of a natural capital approach which the NCC has set out in previous advice to government<sup>11</sup>. A natural capital approach to the environment brings established economic and accounting methods for public and private assets together with the best natural science understanding. Properly measured and accounted for, the approach brings disparate activities and their consequences together into a single strategic perspective that addresses the complexity and long-term nature of making the most of our natural capital.

The Plan is a huge economic and social opportunity that can genuinely transform the natural environment, support the growth of the economy, allow citizens to reconnect with the health, wellbeing, spiritual and educational benefits of interacting with nature, and gift our children a richer, better and more resilient natural inheritance. With a natural capital approach, the environment should no longer be regarded as an obstacle to development; rather, a healthy environment is the basis of sustainable economic growth.

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<sup>10</sup> The Natural Choice: securing the value of nature (2011): <https://www.gov.uk/government/publications/the-natural-choice-securing-the-value-of-nature>

<sup>11</sup> The NCC has defined natural capital as those elements of the natural environment which provide valuable goods and services to people. See <https://www.gov.uk/government/collections/natural-capital-committee-documents>.

This report sets out the NCC's advice to government on the development and implementation of the Plan. It will be the responsibility of Defra to lead the work, liaising closely with other government departments, so that the Plan joins seamlessly with other cross government initiatives like the Industrial Strategy and the Clean Growth Plan. In addition local councils, private industry, the voluntary sector, NGOs and researchers will also have a key role to play. If this is to be a genuinely transformative plan, as we think it should, then everyone will need to play their part.

**Our advice is in five parts:**

1. What should be the vision, ambition and **goals** for the next 25 years?
2. What type and scale of activities and **investments** in natural capital assets should the Plan consider to deliver the ambition?
3. The need to incorporate **milestones** into the Plan.
4. The importance of considering **governance**, accountability, monitoring, measurement and implementation.
5. The special dimensions of **agricultural** subsidies in the context of BREXIT.

## 1. The Prize: what should be the vision, ambition and goals for the next 25 years?

The 25 Year Environment Plan should set out a clear, accessible vision for the state of the natural environment in 25 years' time, expressed in ways that everyone can understand; and provide quantified measures of success so that all know where they are heading and how close they are to achieving the goals.

This is Defra's first task. Without it the Plan will most likely go the way of many well intentioned initiatives in the past, and the overarching objective of leaving the natural environment in a better state for the next generation will not be achieved. The Plan needs to recognise the sheer scale and urgency of the task. At present UK natural capital is not even maintaining its current condition; it is declining. This is by definition unsustainable and if unchecked will not only leave the UK with a degraded environment, but with lower economic growth and a reduced quality of life for those that live here.

Below we provide some suggested goals for the Plan. This is not a comprehensive list but provides a starting point which government should take into account when developing the Plan. All goals should be specific, measurable and ambitious, while also being closely linked to improving human health, wellbeing and the economy. Over the period of the Plan new issues will arise that need to be considered and addressed. Hence both the goals and plan will need to be reviewed on at least a 5 yearly basis and modified in the light of progress and new findings.

Proposed goals for the Plan should include:

1. Everyone breathes air that meets international health based standards.
2. Everyone is protected against a 0.5% annual probability flood event through a combination of natural flood risk management measures, engineered structures and property level resistance and resilience measures. Everyone is able to return to their homes and businesses within a maximum of five days of a flood event.
3. All surface and ground waters at least meet 'good' status requirements in line with existing international commitments. Bathing waters are healthy places for swimming and recreation, meeting international standards for excellence.
4. We continue to meet or exceed greenhouse gas emission reduction targets including the contributions from land use and land use change.
5. Everyone has access to local greenspace and recreation and can benefit from the physical and mental health benefits it provides. Specific targets should be set, for example, one hectare of local nature reserve per 1000 people, two hectares of natural greenspace within 300 metres of where they live, and a 20 hectare site within two kilometres.

6. Everyone, especially children, is better connected with their environment. People understand, enjoy and appreciate its benefits and can spend more time in green spaces.
7. Wild species and habitats are thriving and populations are restored and enhanced to levels that are sustainable into the future despite the challenges from climate change and increasing pressures from built infrastructure.
8. Seas are clean, productive and biologically diverse; fish populations are restored to sustainable levels; and new pollutants, such as plastics, entering the marine environment are eliminated whilst existing contamination is addressed.
9. Soils are healthy, productive and managed sustainably. All historic contaminated land is cleaned up.
10. The country makes a net positive contribution to the global environment, including being among the leading nations in terms of contribution to global environmental commitments and an ever decreasing international impact.
11. Discharges and emissions of polluting substances to air, land and water are prevented or are managed at levels where they do not have an adverse effect on people, wildlife and habitats.
12. All development and the use of renewable and non renewable resources are managed in ways that result in an overall net increase in natural capital.

While the above list covers some of the most critical areas requiring action, there are others where specific and measurable goals should be developed, including but not limited to resource efficiency and waste, and chemicals and the use of hazardous substances. These are important growing pressures on our natural capital assets.

## 2. What type and scale of investments in natural capital assets should the Plan consider in order to deliver the ambition?

The Plan should show clearly how the goals in section 1 are to be delivered in a coherent, integrated 25 year programme of work. The NCC recommends that the Government include investment details for how these goals will collectively be delivered. To assist Defra in this task, some examples of investment opportunities are set out below. It is beyond the NCC's remit and resources to propose detailed projects; this is for the Government. The example investment opportunities reflect and build upon the advice the NCC has given to date, notably through the Committee's four State of Natural Capital reports. In the most recent of these, we recommended that a programme of investment in natural capital by the private and public sectors is required to deliver the Plan; and that resources and investments should be guided by valuations of the net benefits they generate<sup>12</sup>.

In developing this aspect of the Plan, the Government should recognise that many of the above goals are inextricably linked, so action aimed at one affects others, sometimes positively, sometimes negatively. Good decision making and prioritisation requires that all of these aspects are considered together and those changes and locations which deliver the best mix of improvements are targeted. For example, increasing woodland and vegetation cover can make a significant contribution to many of the goals identified in section 1. Planting the right trees in the right places can deliver major gains in terms of reducing air and water pollution, decreasing flood risk and soil erosion, delivering recreation and health benefits, providing habitats for wild species and reducing greenhouse gases, storing carbon and helping to stabilise the climate. Woodlands can also offer sustainable renewable fuel supplies thereby contributing to associated industries and employment together with tourism and timber revenues. All of these should feature in the appraisal and decision making progress to ensure best value for money from any investment.

As with the goals in section 1, the list of potential investments below is recommended to the Government for more detailed consideration. The list is not comprehensive but a starting point to achieve the goals.

1. Increase woodland by at least 250,000ha by 2040.
2. Restore peatland systems, particularly in upland areas, to favourable condition.
3. Restore natural hydrological processes including better habitat management, wetland creation, wildlife passages, channel restoration and natural flood management approaches as appropriate in river catchments.

<sup>12</sup> The NCC's 4<sup>th</sup> State of Natural Capital Report, (2017): <https://www.gov.uk/government/publications/natural-capital-committees-fourth-state-of-natural-capital-report>

4. Develop and implement a national network of conservation areas to provide bigger, better and more joined up habitats, including more nature reserves.
5. Significantly expand green spaces and outdoor recreation areas; especially in and around urban and well populated areas, and particularly within disadvantaged and under provided places.
6. Develop and implement a comprehensive network of Marine Protected Areas.
7. Designate new national parks to protect and enhance natural capital and cultural heritage.
8. Overhaul funding to the farming sector so that the Government procures only the provision of public goods and high animal welfare standards (see Section 5).
9. Use available information and approaches (such as natural capital decision support tools and markets) to target and allocate public funding for the environment so that it delivers better value for money.
10. Provide funding to enable the effective functioning of Local Nature Partnerships and catchment partnerships as a means of facilitating local engagement and investment.
11. Enable a more strategic natural capital investment approach to be taken at an area level. Developer (housing, business and industry) contributions are pooled and invested in priority natural capital improvements.

In addition, the Committee also advises government includes measures in the Plan to:

- Strengthen the nature conservation and land use management responsibilities of National Parks and Areas of Outstanding Natural Beauty;
- Develop a major programme to enhance the capacity of public, private and voluntary bodies to incentivise citizen action to protect and improve their local environment;
- Secure a natural capital net gain principle within:
  - The spatial planning regime for housing and infrastructure;
  - The environmental pollution prevention and control regulatory regimes;
  - Public procurement contracts, as applicable.



### 3. The Plan should incorporate milestones throughout its life

To translate the overall goals and investments into a credible plan that can protect and improve natural capital, the Plan should be broken down into 'bite sized' periods and programmes which are themselves governed, monitored, measured and learned from effectively. This is the main way for the Government to be held accountable on progress over the period.

The NCC recommends that the Plan sets out detailed milestones for 5 year periods. It should define what is expected to be achieved by the end of the first period in 2022, and put in place a process for the setting of subsequent 5 year objectives. Investments should be resourced through 5 year programmes, providing the planning certainty needed for strategic, proactive and joined up action.

In order to ensure these milestones are robust and comprehensive the NCC recommends, building upon its earlier advice, a clear and consistent approach to monitoring, evaluation and iterative learning across all of the activities encompassed by the Plan. This monitoring and evaluation approach should as a minimum include:

- Development and utilisation of natural capital **risk registers** to identify threatened and priority assets;
- Appropriate **accounting** including proportionate understanding of the natural capital asset base through the development of detailed institutional **natural capital accounts**, in both the public and private sectors;
- Clear **appraisal of the benefits and costs of alternative investments** in natural capital;
- Natural capital **balance sheets**, in the context of the move to national natural capital accounts, and identification of capital maintenance costs entailed by assets.

For such initiatives to succeed, the Government's guidance on investment appraisal (the Green Book) and impact assessments must fully incorporate the assessment of natural capital.

The Office for National Statistics (ONS) is leading the development of national natural capital accounts which are vital to help measure overall progress on natural capital improvement. In addition to meeting its commitment to produce a comprehensive set of national accounts by 2020, ONS should review how it can further contribute to natural capital reporting and specifically helping to measure progress against the outcomes set out in the Plan.

The private sector owns and manages much of Britain's natural capital, and the Plan cannot be delivered without sustained private efforts. To this end, the Plan should set out measures to

develop and implement natural capital accounting as part of overall corporate accounting and reporting, and in line with the NCC's earlier advice<sup>13</sup>.

In establishing the Plan milestones, the Government should include an early assessment of the **four Pioneer projects** and, building on what they have achieved to date, develop proposals to enhance and improve them, and to generalise them across the economy. The Pioneer Projects potentially have a key role to play in developing and sharing best practice in these and other areas. This should be one milestone for the first 5 year period. The NCC has previously recommended that the Pioneers require clear leadership, strong governance, clear reporting requirements and a valuation and accounting framework to help determine priorities, monitor progress and ensure performance<sup>14</sup>.

The NCC has previously advised that the Plan needs rigorous scientific and economic assessment of the status of our natural capital assets; the key risks they face; the investment needed to maintain or enhance them; and the prioritisation of those investments<sup>15</sup>. Building this baseline understanding of our natural assets and putting in place the mechanisms to revise and update it, throughout the full life of the Plan, is also a key milestone for the first 5 year period.

In particular, there are significant gaps in current knowledge and a lack of joined up approaches to data collection, measurement and monitoring of the UK's natural assets. There is no single method or date for collection of baseline data and some assets (e.g. soils) have yet to be assessed in detail across the whole country. Also, many different agencies are responsible for the collection of data (e.g. the Forestry Commission, Environment Agency, Met Office, Natural England, and Joint Nature Conservation Commission). This leads to both gaps and duplication in the data collected and inconsistencies in approaches to analysis. This impedes the effective decision making necessary to deliver the Plan.

To address this, **the NCC recommends that the Plan takes forward a comprehensive and encompassing state of the environment report**, and opportunities for its improvement, to be completed by end 2019. This should be updated frequently, possibly on an annual basis to link with the ONS work to develop national natural capital accounts, with a more substantive review every 5 years.

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<sup>13</sup> The NCC's Valuation Paper, (2017):

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/608850/ncc-natural-capital-valuation.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/608850/ncc-natural-capital-valuation.pdf)

<sup>14</sup> The NCC's 4<sup>th</sup> State of Natural Capital Report, (2017): <https://www.gov.uk/government/publications/natural-capital-committees-fourth-state-of-natural-capital-report>

<sup>15</sup> The NCC's 3<sup>rd</sup> State of Natural Capital Report, (2016): <https://www.gov.uk/government/publications/natural-capital-committees-third-state-of-natural-capital-report>

To further progress the development of a more robust evidence base, the Committee also advises that the Plan adopts major changes to existing practices and protocols in the first 5 year period, including but not limited to:

- Building in **responsiveness to change**. With a 25 year time horizon, there is a risk that actions to achieve long-term objectives are overtaken by developments and other factors. To avoid this, the Plan should ensure that decisions are continuously re-assessed, informed by new findings and the best local, national, academic and stakeholder knowledge;
- **The development of natural capital decision support tools**. The Plan must both develop and take advantage of a step change in our ability to take superior decisions which seek to make much better use of available resources (both environmental and economic). These tools must be able to capture both the economic and environmental consequences of investments, assess the best ways in which to make those investments (for example through superior location of spending, or its allocation between periods) and compare across multiple alternative investments;
- **Ensuring decision makers can understand the consequences of alternative investments in terms they are familiar with and which are compatible with other alternative economic investments**. Our inability to convey the value of investing in environmental improvements and the benefits of preventing degradation has been a major factor in the loss of natural capital that has been seen over the past half century or more. Decision making support tools have to be developed to bring the economic value of most of the benefits and costs of change in the environment into the everyday economic decisions which determine the vast majority of public and private sector decisions in the economy. Where valuation methods are currently under-developed this needs to be addressed or alternatives implemented to ensure a level playing field across all the effects of investments in natural capital;
- Using **emerging tools and technologies**, ensuring transparency, flexibility and the ability to make use of 'big data' developments to further improve decision. Examples of the types of data and approaches that can and should be used to assess natural assets were provided in the NCC's recent 'How To Do It Workbook'. These should be drawn on as a starting point to develop a list of agreed methodologies. The potential for collaborations with leading data and software providers should be explored;
- **These tools should be designed to allow for future data availability rather than being constrained by the present**. For example planning to exploit the ongoing and massive expansion in earth observation, crowdsourced and monitoring data (including that arising from rapidly reducing costs of monitoring technology) is crucial. These plans should also build in and utilise the rapid growth of very high quality open source code and freeware as a means of improving decision support;

- **Openness and transparency** of data and models. Building on Defra's strong track record in recent times, we recommend that all national data sets be made open access along with provision of a fit for purpose suite of open source tools and models. That said, the availability of data is likely to outstrip our ability to analyse and use it unless an urgent start is made on improving decision making tools. There is a real opportunity for the UK to exploit the substantial technical advances that are in progress and take a global lead in terms of the measurement and valuation of the state of natural capital and the services it provides. Such technology and decisions systems would, of themselves, be of significant value to the economy;
- Methods for assessing the **social and distributional consequences of environmental investments** should be employed and where necessary improved.

## 4. Governance, accountability and implementation

The Plan will only succeed if its delivery is supported by appropriate governance, accountability and implementation structures. Past and current efforts to improve the quality of our natural capital have been undermined by fragmented oversight, competing objectives from different parts of the Government and bureaucratic silos. We recommend the Plan be bold in cutting through legacy arrangements where these are holding back progress; and is accompanied by a clear, joined up steer from the Government.

The NCC recommended in January 2017 that the Plan should be placed on a **statutory footing**. Such legal status will enable greater traction across government and its agencies. The initial version of the Plan should lay the groundwork for necessary legislation. Given pressures on the legislative pipeline, the Government should consider the opportunity of the forthcoming Agriculture Bill to put this in place.

The Plan would benefit strongly from there being a **single authority** with statutory responsibility for its delivery, with line of sight down to specific accountabilities. The accountability of that body to Parliament must be robust and transparent, supported by an independent statutory scrutiny body to assess progress in delivery of the Plan (see below). Such arrangements would constitute a radical departure from the current situation which suffers from layers of sometimes competing bureaucracy. Without a single authority taking responsibility, the Plan will struggle to succeed.

Initial lessons from the Pioneer Projects about the sort of governance arrangements for integrated decision making should be taken on board. The NCC will give separate advice on how these issues should be addressed in the case of the Pioneers. The challenge for the Plan is to support local creativity and commitment in the context of coherent governance and responsibility for the overall delivery of the Plan.

**Delivery must be coordinated** across spatial and administrative boundaries both national and local, and over time. The detailed delivery of the Plan cannot be achieved centrally; there are a great many agencies, councils, landowners, charities, community groups and individuals who will have their part to play in changing our environment for the better. Recognising this, the Plan needs to consider carefully how the efforts of these groups will be coordinated and joined up to best effect. This is not a new observation; the 1990 White Paper *This Common Inheritance* set this out in its case for integrated pollution control. The Plan needs to set out how it will deliver on this going forward. In part this will be about requirements – ensuring that relevant authorities are clearly tasked with working together towards shared goals - but this will also require support from government; empowering and enabling those who care about our environment to work together without hindrance. We would strongly encourage government to consider a range of models and options, including the idea of a ‘system operator’ for (aspects of) natural capital in different areas.

**A separate body should be given a statutory responsibility to report on progress.** This body should be tasked with reporting annually to Parliament on progress in delivering the Plan, and it should have the expertise and resources to do so effectively. Considerations should be given to its powers and duties and these might include public reporting (data gathering, monitoring and analysis); independent scrutiny of governance and decision making; and providing necessary information to government and Parliament to ensure that the Plan can be effectively managed. The Committee on Climate Change is one model for such a body, and other models (such as the National Audit Office and, historically, the Audit Commission) are of relevance.

## 5. Agriculture and forestry policy

### 5.1 A sustainable model of agriculture

The UK's exit from the EU is likely to entail withdrawal from both the Common Agricultural Policy (CAP) and the Common Fisheries Policy (CFP), in which case the myriad connections between farming, fisheries and the natural environment mean that Brexit could provide a once in a lifetime opportunity to provide a coherent approach to farming, fisheries and environmental policy. In drawing up the Plan, the Government should draw upon Defra's expertise in these areas, and in particular the Government's 2005 paper 'A Vision for the Common Agricultural Policy'<sup>16</sup>.

At present EU policy provides very substantial levels of public funding for agriculture and fisheries with typically over 50% of UK farm incomes coming from public sources<sup>17</sup>; while the EU contains the most heavily subsidised fisheries in the world. The Government's task through the Plan is to design a new framework which leaves UK agriculture and fisheries in a better state for the next generation.

### 5.2 Limitations of the current support system

Within agriculture the majority of public subsidies are in the form of direct income payments to farmers. Much of this support is allocated on an area basis, so bigger farms get more support; indeed 25% of farms capture nearly three-quarters of public subsidy<sup>18</sup>. This in turn means that a large proportion of public funding goes to some of the richest farms in the country, whilst many smaller farms (including many that are vital elements of our environmental, landscape and rural community heritage) receive relatively little in income support. Support for larger, often high input/high output farms mean that the taxpaying consumer pays for food production twice, both via subsidies and through the shopping basket.

Public funding should be closely targeted to the delivery of public goods. These include, but are not limited to: environmental conservation and enhancement, animal welfare, biosecurity, and rural development programmes (such as poverty reduction and the transfer of knowledge). At present such schemes account for a small proportion of agricultural subsidies, yet these are important benefits to society which farms currently provide for relatively modest (and arguably inadequate) reward.

<sup>16</sup> A Vision for the Common Agricultural Policy, HM Treasury and Defra, 2005; <http://webarchive.nationalarchives.gov.uk/20060213212601/http://www.defra.gov.uk/farm/capreform/vision.htm>

<sup>17</sup> National Statistics (2017) Agriculture in the United Kingdom 2016, Defra, London, available at <https://www.gov.uk/government/statistics/agriculture-in-the-united-kingdom-2016>. Figures taken from Tables 4.1 and 10.2.

<sup>18</sup> Data taken from the UK Rural Payments Agency

Analysis by Defra<sup>19</sup> has shown that environmental improvements provide excellent value for money to the taxpayer (with benefits often three times larger than costs). This analysis has also demonstrated that schemes for improving natural capital can be incorporated into commercial farming systems without compromising their profitability<sup>20</sup>. Despite the good value for money demonstrated by environmental schemes, the majority of funding is still delivered through direct income supplements with little or no connection to natural capital improvements.

The Government has already committed to maintaining the overall level of funding to agriculture through to 2022, and hence the first 5 years of the Plan. It is possible that analysis might show that a switch towards public funding of public goods justifies an increase rather than reduction in overall funding. If good value for money is demonstrated then further investment is justified.

### 5.3 An alternative structure of agriculture policy for the UK

Moving agricultural subsidies towards the provision of public benefits could help to resource the investments outlined earlier in the report. Supporting farmers and others to invest in a diversity of natural capital assets such as woodlands has the potential to deliver a wide array of benefits including many of the outcomes in section 1.

Modest investments in providing decision support tools (e.g. software programmes helping decision makers understand the consequences of different investments) should deliver large gains in terms of the value for money delivered by public spending. The major and ongoing expansion in the availability of environmental and related economic data needs to be exploited to provide opportunities within agriculture, forestry and fisheries. Payments for the public goods delivered by these sectors can deliver much higher value for money to the taxpayer if they are targeted at those areas which deliver higher social values. For example, policies to enhance access to the countryside or woodland can deliver substantially higher benefits if they are targeted at those areas where populations currently have little opportunities for recreation.

Technological advances also have a part to play here. Changes in our ability to monitor the contribution of landowners and managers in delivering environmental improvements (e.g. in reducing water pollution) are already improving and is likely to rapidly progress over the period of the Plan. While there are challenges to be overcome, the potential exists to shift from 'payments for action' (e.g. subsidies based on the area of an activity) towards 'payments by results' (e.g. the improvement delivered). This in turn could further improve the value for money and hence impact of environmental payments. Investments in these various forms of 'natural capital decision

<sup>19</sup> See Defra (2013); [https://consult.defra.gov.uk/agricultural-policy/cap-consultation/supporting\\_documents/131022%20CAP%20Evidence%20Paper%20%20Final.pdf](https://consult.defra.gov.uk/agricultural-policy/cap-consultation/supporting_documents/131022%20CAP%20Evidence%20Paper%20%20Final.pdf)

<sup>20</sup> Eftec, CEH, APBmer & Regeneris (2015) Report to the natural capital committee available at; <https://www.gov.uk/government/publications/natural-capital-committee-research-investing-in-natural-capital>



support' will allow the Government and other funders to target payments in ways which deliver the best outcomes.

Encouraging rural businesses to generate profit through the delivery of environmental benefits is a further approach to ensuring long term natural capital restoration. Many water companies are now taking this approach<sup>21</sup>, paying farmers to improve water quality, thereby providing an enhanced and stable income flow for farms, lower water treatment costs and cleaner rivers for anglers, the public, local tourism, ports and fisheries. Changing regulations and providing public funding to kick start such schemes has the potential to lever substantial private sector co funding, further enhancing value for money to the taxpayer.

Such approaches can be further enhanced by the development of catchment based markets and auctions to improve the way in which policies are implemented and subsidies allocated. There are great opportunities to develop new markets bringing together and incentivising farmers, water companies, other businesses and communities to improve the natural environment. These enhancements should be defined against the high level targets and the overall objective of the plan.

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<sup>21</sup> For example, South West Water Upstream thinking: <http://www.upstreamthinking.org/>

## Annex – past recommendations of the Natural Capital Committee

### NCC Recommendations from the Fourth State of Natural Capital Report

1. The Government's 25 Year Environment Plan should be progressed rapidly, if there are to be demonstrable improvements in England's natural capital before 2020 and progress in delivering the government's objective "of being the first generation to leave the natural environment of England in a better state than that in which we found it". Currently many aspects of the natural environment are still deteriorating; Development of the Plan has been considerably slower than both expected and desired, in part due to the referendum and BREXIT;
2. The 25 Year Environment Plan should be placed on a statutory footing to move from aspiration to practical implementation. Such legal status will enable greater traction across the Government and its agencies. There should be a White Paper in 2017 setting out the 25 Year Environment Plan and laying the groundwork for necessary legislation in due course;
3. Governance and accountability of the 25 Year Environment Plan should be assigned to a specific lead institution. This governance should be put on a statutory footing;
4. The Government's 25 Year Environment Plan should contain ambitious, long-term outcomes from natural capital ('The Prize'), incorporating the Committee's advice on key policy areas. Outcomes should be quantifiable and measurable so that progress can be evaluated, corrective actions taken in a timely fashion, and benefits widely publicised and understood;
5. The Government's Pioneer Projects are key to the implementation of the 25 Year Environment Plan and need to be progressed rapidly. The Pioneers require clear leadership, strong governance, clear reporting requirements and a valuation and accounting framework to help determine priorities, monitor progress and measure performance. They should provide a test bed for aspects of the 25 Year Environment Plan, promote learning about best practice, and establish templates that can be adopted throughout the country;
6. A programme of investment in natural capital by the private and public sectors is required to deliver the Government's 25 Year Environment Plan ambition. Resources and investment should be guided by valuations of the net benefits they generate. The Government should actively promote corporate natural capital valuation, accounting and reporting. Such action is important because the private sector owns and controls much of England's natural capital. The Government and other public sector bodies should account for and value natural capital assets, and use valuations to guide investments in improving those assets and the benefits they provide. Budgetary provisions should be made annually for maintenance and enhancements, as identified in the 25 Year Environment Plan;

7. The 25 Year Environment Plan should provide a key part of the overarching framework for the development of British agricultural policy from 2020, consistent with the objectives of protecting and improving natural capital. Agriculture is the major land use in England and should be one of the central features of any integrated environment plan. Similarly, natural capital should be a central element of the government's plans for food, farming and fishing, and so these plans should be developed in an integrated manner;
8. The new National Infrastructure Commission (NIC) should incorporate natural capital, including its maintenance, restoration and recovery, into long term infrastructure plans; ensuring consistency with the objectives of the 25 Year Environment Plan;
9. Local authorities and major infrastructure providers should ensure that natural capital is protected and improved, consistent with the overall objective of the 25 Year Environment Plan. The Plan should reinforce existing environmental duties of public authorities, including those enshrined in Section 40 of the Natural Environment and Rural Communities (NERC) Act 2006, to conserve biodiversity, including restoring or enhancing species populations or habitats;
10. England's National Parks contain very significant natural capital, and their powers and duties should be extended to support the objectives of the 25 Year Environment Plan. Where practical, each National Park should quantify and value the main natural capital assets in its area, using the accounting framework recommended by the Committee in its first term. Valuation should play a key part in the assessment of natural capital investment options. Consideration should be given to the creation of new National Parks;
11. Natural capital catchment based approaches should be encouraged by OFWAT in the Periodic Review in 2019. Water companies are key players in influencing natural capital within water catchments and the investments they are required to make as part of the Review process should help progress the overall objectives of the 25 Year Environment Plan;
12. The Government's Green Book on project appraisal should be revised to include the Committee's recommendations regarding the enhanced incorporation of natural capital in identifying priorities and appraising investment proposals. These revisions should recognise that the natural environment is a highly connected 'system' where a single change can generate multiple costs and benefits;
13. A coherent and consistent set of assessment, analysis and decision support tools will need to be further developed and applied as part of the 25 Year Environment Plan with particular attention to supporting the development of Pioneer projects in the first instance. These tools will assist with the identification of priority investments, and provide information about how net benefits from those investments alter between locations and according to management practices. The Government should ensure that such a suite of relevant and effective tools are documented, publically available and accessible to all;

14. The Office for National Statistics (ONS) has committed to developing a full set of national natural capital accounts by 2020. Their latest estimates point to a decline in the value of some natural capital assets. ONS should further develop national natural capital accounts and, in particular: extend their coverage to cover more renewable natural assets; include estimates of the capital maintenance and restoration costs as well as the valuations of renewable natural assets; and incorporate cost based approaches that complement existing valuation methods;

15. There needs to be consistency between Climate Change Committee recommendations and the 25 Year Environment Plan. The 25 Year Environment Plan should incorporate the Climate Change Committee's relevant carbon budget, and should be consistent with the recent advice of the Adaptation Sub-Committee on natural capital. Conversely, decarbonisation policies should take account of their impacts on other environmental objectives;

16. The 25 Year Environment Plan should consider the creation and enhancement of new wildlife areas and corridors, including in collaboration with National Parks, landowners, local authorities, developers and infrastructure providers. This should include a commitment by the government to enhance England's wildlife in line with the recommendations of the Lawton Report (2010).

### **Recommendations from the Third State of Natural Capital report**

In order to be the first generation to leave the natural environment in a better state than that in which it was inherited, the NCC specifically recommends that:

1. The Government, working with the private sector and non-governmental organisations (NGOs), should develop a strategy to protect and improve natural capital and the benefits it provides. It should contain: a) clear evidence-based targets for natural capital; b) a way of prioritising actions to meet those targets which seeks to maximise their net benefits; and c) milestones against which to monitor progress. The strategy should be given effect in legislation, with regular reports on progress made to Parliament;
2. The Government should assign institutional responsibility for monitoring the state of natural capital. This should build on the NCC's work to develop a risk register that systematically assesses the benefits from natural capital;
3. Organisations should create a register of natural capital for which they are responsible and use this to maintain its quality and quantity. The Government should incentivise wider adoption and uptake of the corporate natural capital accounting framework outlined in this report and consider requiring provisions to be made for the maintenance of natural capital;
4. The Government should urgently step up action to ensure that the Office for National Statistics (ONS) and the Department for Environment, Food and Rural Affairs (Defra) meet the target of

incorporating natural capital into the national accounts by 2020. This should include a national balance sheet of the value of our natural assets, estimates of the depreciation of those assets (where this occurs) and a corresponding redefinition of the way in which income and savings are measured in national accounts;

5. The National Infrastructure Plan should incorporate natural capital into each of the main infrastructure sectors, following the mitigation hierarchy for managing impacts (avoid, minimise, restore, offset). An investment programme for natural capital should also explicitly feature in the National Infrastructure Plan;

6. The Government should revise its economic appraisal guidance (Green Book), implementing our advice, and as a matter of urgency, apply the revised guidance to new projects;

7. The Government should drive a substantial, long term interdisciplinary research programme on natural capital to inform future iterations of the strategy. This should be led by the Research Councils and build on existing initiatives;

8. Government should determine how the plan to protect and improve natural capital is to be funded, drawing on a combination of public and private funding as proposed by the Committee. Specifically, we recommend that Government:

- a. Commits to capital maintenance expenditures to ensure that the real value of natural capital, as a minimum, does not decline overtime;
- b. Ensures that damage to renewable natural capital is, where possible, avoided and minimised, but where it does occur, it is fully compensated by investment in renewable natural capital of equivalent or higher priority or value;
- c. Establishes a 'wealth fund' derived from the depletion of non-renewable natural assets, part of which should be used to support the delivery plan;

9. The Government, working with business, NGOs and other parts of society, should fully develop a 25 year plan. This plan needs to incorporate all the Committee's recommendations, detailing specific actions for all parties to deliver the strategy to protect and improve natural capital. This will need to set out who does what, when and where and how actions are to be resourced and incentivised.

## Key messages from the Second State of Natural Capital Report

The Natural Capital Committee's second State of Natural Capital report has three key messages for The Government and other interested parties. These are:

1. Some assets are currently not being used sustainably. The benefits we derive from them are at risk, which has significant economic implications;
2. There are substantial economic benefits to be gained from maintaining and improving natural assets. The benefits will be maximised if their full value is incorporated into decision-making;
3. A long-term plan is necessary to maintain and improve natural capital, thereby delivering wellbeing and economic growth.

## Recommendations from the First State of Natural Capital Report

The NCC Recommends:

1. The development of a framework within which to define and measure natural capital. Once designed, the use of the framework for regular reports and advice would need to draw on data and monitoring systems from across government departments, non-governmental and research organisations;
2. The development of a “risk register” for natural capital assets to identify the implications of further depletion or lack of restoration. Changes in natural capital should be properly included in national and corporate accounts;
3. The work led by the Office for National Statistics (ONS) to include natural capital fully in the UK’s Environmental Accounts should be given the greatest possible support by Government. The development of the accounts should be informed by short and long-term policy needs as well as international work to maximise their usefulness. The UK has the opportunity to demonstrate leadership in this field;
4. Business groups, leading companies, accounting bodies, land owners and managers, as well as Government should collaborate to develop and test guidance on best practice in corporate natural capital accounting.
5. A cross government group of senior analysts, led by ONS, should review and develop approaches to ‘Inclusive Wealth’ accounting in the UK (that is, measures of our total capital stock), including a comprehensive assessment of the wealth represented by natural capital. Changes in natural capital should be properly valued and those values more effectively included in decision-making processes.
6. The Government undertakes a critical look at how cost benefit analysis is being implemented with respect to natural capital to identify priority areas for improvements. While HM Treasury's Green Book provides a good starting point for cost benefit analysis, options to improve the treatment of natural capital within this guidance should be explored. This should include

consideration of the appropriateness of physical (in kind) compensation for certain forms of natural capital loss;

7. An urgent programme is initiated to provide high quality evidence on the economic value of changes in natural capital to feed into cost benefit analyses. The NCC will bring forward detailed proposals on this shortly;

8. The Government, working with the NCC, explores the development of new “decision support tools” aimed at incorporating economic valuations of changes in natural capital within wider decision appraisals;

9. In addition to conventional indicators, the Government develops measures of economic growth, net of the depreciation of natural and other forms of capital as well as more comprehensive metrics of saving and inclusive wealth;

10. Offsetting and other forms of compensation are explored after a clear set of principles and a policy framework have been developed;

11. Opportunities are explored to increase the direct contribution natural capital can make to growth, such as the recommendations identified by the Ecosystem Markets Task Force (EMTF) report (published on 5th March 2013) and the Independent Panel on Forestry;

12. The Government reviews the extent to which natural capital is being effectively priced, in particular examining the scope for reducing perverse subsidies. Where practical, the costs of polluting activities that impact on natural capital should be internalised;

13. The NCC recommends that the Government's efforts to reform the Common Agricultural Policy be intensified, with a long-term view to phasing out Pillar one support and moving subsidies towards Pillar two and the provision of public goods. In the short-term, securing as much flexibility as possible in how funding can be allocated for the period 2014-2020 and taking full advantage of this when shaping domestic schemes, is essential.