

Royal Society of Biology response to the 25 Year Environment Plan inquiry

February 2018

The Royal Society of Biology (RSB) is a single unified voice, representing a diverse membership of individuals, learned societies and other organisations. We are committed to ensuring that we provide Government and other policymakers, including funders of biological education and research, with a distinct point of access to authoritative, independent, and evidence-based opinion, representative of the widest range of bioscience disciplines.

Summary

1. The Plan has a wide ambition covering a large remit of environmental issues, which is welcome. However, there is a lack of concrete targets and milestones to allow the effective monitoring of progress towards its aims.
2. Consistent, timely review and evaluation of the value of natural resources and biodiversity are needed for the successful implementation of the Plan's natural capital led approach.
3. Close co-operation with devolved nations, our European neighbours and the rest of the world will be needed for the Plan to achieve its intended impact.

Ambition and reporting

1. The Plan covers a wide swathe of environmental issues, and reflects an ambition for environmental protection to be at the heart of the Government's work; this is welcome. **However, the Plan is notably short on detail about how its goals will be achieved.** More detail will be needed, for example on how Government plans to implement related incentives and legislation, to show that the Government recognises the scale of the challenge, and is focused on ensuring delivery.
2. In addition, some targets in the Plan do not go far enough, nor come into effect soon enough. For instance, the target to reach zero unavoidable plastic waste is set for 24 years from now. Enabling the continued accumulation of an enormous volume of non-biodegradable waste would be a poor legacy given the recognition of past complacency in this area, and the opportunity afforded by the popular mood to address it.
3. Many of the actions on fisheries are already covered by existing plans and EU directives. For instance, the commitment to ensuring good environmental status in our seas is covered by the EU Marine

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Strategy Framework Directive.¹ The UK should address the challenge of how to continue to collaborate as much as possible with the EU on these initiatives, and others regarding shared resources, into the future.

4. The Plan is broad in scope, covering a wide range of environmental policy. **However, our members have identified several gaps and areas of concern:**
 - 4.1. **Emissions from shipping and aviation** are major sources of air pollution, and contribute to climate change, along with the use of **shale gas and other fossil fuels**. However, these are not addressed in the Plan, for example through consideration of alternative, renewable energy sources. We presented further detail on the topic of renewable energy in our response to the 2017 BEIS consultation on the UK Bioeconomy.²
 - 4.2. The Plan should address the need for assessing and **remediating land contaminated** by industry and landfill sites.³ Funds are needed to identify and remediate contaminated sites, along with research into newer, more efficient methods.
 - 4.3. The Plan should consider **domestic food production following our proposed exit from the EU**. This could include consideration of both dietary choice and the environmental impacts of different farming systems, with an ambition to incentivise healthier and more sustainable food systems. The factors involved are numerous and their interaction is often complex, and so the review should be wide-ranging with consultation of the available and up-to-date evidence and expertise, including consideration of societal interest.
 - 4.4. The Plan fails to mention **training and education to deliver the skills and expertise** necessary to implement key actions. As examples, taxonomists are needed to perform identification necessary for monitoring biodiversity, and diagnostic skills and capacity must be maintained to achieve the aim of 'enhancing biosecurity'. Strategies and resources will be needed to build the skills required, including promotion of on-the-job training with apprenticeships in expert teams.
 - 4.5. A particular concern is the goal of '**managing exposure to chemicals**'. In agriculture, the aim of reducing the exposure of humans and ecosystems to damaging levels of specific compounds is important, but care is needed to ensure that plans do not imperil food security. The risks relating to the use of specific compounds are derived from both relative toxicity and exposure, and mitigating these risks should be a key aim, rather than simple elimination. Policy should be evidence-led and, where there is an absence of evidence of harm, bans or withdrawal should be undertaken only with consideration of the risks of action, inaction and the projected impact of available alternatives. Endocrine disrupting compounds are another concern not specifically mentioned in the Plan, with a substantial body of evidence linking exposure with disease in

¹ European Parliament, 2008. Directive 2008/56/EC, [Marine Strategy Framework Directive](#).

² Royal Society of Biology, 2017. [Response from the Royal Society of Biology to the BEIS consultation on the UK Bioeconomy](#).

³ Environmental Audit Committee, 2016. [Soil Health](#).

humans and other animals.⁴ Furthermore, other medicines and chemical products, such as antimicrobials and biocides, enter the environment through human activity, with associated risks, for instance the generation of antimicrobial resistance. Further knowledge of the overall impact of these products and management of their use are called for to increase our understanding of the implications for public and ecosystem health.

- 4.6. The Plan sets a goal of achieving clean and plentiful water, and recognises farming as the most significant source of nitrate pollution. Steps to reduce pollution of water by agriculture are welcome. However, **historic applications to agricultural land can cause nitrates in the groundwater** system to rise for many years following interventions due to slow migration from the soil layer to the water table.⁵ As groundwater maintains the flow of many rivers, their nitrate levels may also be affected by historical land management. It will therefore be necessary to consider and model the effects of historic pollution when monitoring progress towards cleaner waters.
5. The Plan's commitment to regularly report on progress, including to Parliament, will allow some scrutiny. **The Plan does not provide detail on how it will measure progress towards many of its targets**, and is vague in places. However, it does commit to developing better measures in the areas of soil health, ecosystem function, environmental benefits for human health, and the overseas impact of domestic consumption. To enable appropriate scrutiny of its performance, the Plan must be followed with more detail on specific targets, checkpoints and fail-safes, and how progress will be measured.
6. The proposal to periodically refresh the Plan in light of the latest scientific evidence and expertise is welcome, and should take into account changes in the population and climate over the course of the next 25 years; defining the frequency of such reviews at the outset will enable monitoring on whether this objective is met. Ongoing engagement with the scientific community, in addition to those communities affected by the Plan, will be needed to ensure the Plan remains effective and sufficiently ambitious. Other overarching and potentially impactful initiatives such as the current Industrial Strategy, transport and infrastructure development and housing should be engaged in order to avoid conflicting outcomes and maximise those that are mutually beneficial. The Royal Society of Biology has provided further detail in our response to the 2017 BEIS consultation on the Industrial Strategy.⁶
7. Planning over a long timeframe is appropriate to environmental management, and 25 years is sensible in this regard. To provide longevity for the Plan, **it will be important that the Government advances the idea of an independent statutory body to monitor environmental protection** to uphold, maintain and harmonise internationally leading standards, through the course of at least five Parliaments. Appropriate legislation is key to achieving this, not least in ensuring that future Governments can be held to account on their protection of our environment.

⁴ Gore et al. 2015. EDC-2: The Endocrine Society's Second Scientific Statement on Endocrine-Disrupting Chemicals. <https://doi.org/10.1210/er.2015-1010>

⁵ Wang et al. 2016. The changing trend in nitrate concentrations in major aquifers due to historical nitrate loading from agricultural land across England and Wales from 1925 to 2150. <https://doi.org/10.1016/j.scitotenv.2015.10.127>

⁶ Royal Society of Biology, 2017. [Response from the Royal Society of Biology to the BEIS Consultation on Building our Industrial Strategy](#)

Implementation

8. The Plan recognises that sustainable use of the natural environment underpins society, the economy and wellbeing, and that it is relevant to a wide range of policies. **The adoption of an evidence-led approach that uses natural capital as a tool to quantify the benefits of nature for society is to be welcomed**; it enables an accessible route to accomplish the difficult task of valuing many elements of the natural environment. For this principle to be adopted successfully there must be comparable metrics for valuing natural capital, with processes in place for monitoring and implementation in order to make the most informed decisions. Without this, there is a risk that one aspect of the natural environment could be prioritised in terms of financial capital benefit, while neglecting other areas with less direct economic impact but equal importance, for example, for the protection of biological diversity or societal wellbeing. Consequently, recognition that the value of natural capital is not purely financial is important, and a robust mechanism is needed to take this into consideration in management.
9. If it can be implemented effectively, the principle of “environmental net gain” described in the Plan will ensure that the full environmental impact of development projects are assessed, with overall benefits to the environment. **To ensure positive environmental outcomes there should be an overarching principle of “biodiversity net gain” to run parallel to the “environmental net gain” approach**, to avoid biodiversity being neglected in favour of other aspects of natural capital that could be more directly ‘valued’ financially. This ‘biodiversity net gain’ should also be substantially monitored taking into account the whole extent of biodiversity, and not limited to protection of individual or iconic species.
10. Biodiversity encompasses all areas of life, and the importance of microbial diversity for healthy terrestrial and aquatic environments should be considered, along with plans for conservation of rare microbes. This is likely to be of significant importance in soil quality, which is an identified priority, but the scope is much broader. The 25 Year plan says that biodiversity net gain will be “explored” and this should be “locally-led” (p33-34), but the failure to commit to adopting this approach due to the need to “avoid increased burdens on developers” could undermine these good intentions. In addition, a balanced consideration of local and national needs will be important in some decisions and will need to be accommodated.
11. The Plan proposes a number of overarching aims with many actions that involve updating current plans and strategies. **More detail is needed, including proposed legislative changes, to enable assessment of the related strategies of implementation.** The majority of the actions as described in the Plan do not provide specific, measurable and actionable targets with completion dates to allow progress to be measured and reported upon. It will be important for different Government departments to work co-operatively if the Plan is to be implemented effectively.
12. Environmental policy is an area that is heavily devolved; **the devolved nations need to be able to shape the direction of policy in relation to their particular local requirements.** Concomitantly, areas with shared resources that don’t follow national boundaries will need co-ordination from the devolved institutions to implement an effective strategy, for example in delivering the Plan’s ambitions for clean air, and to secure clean, healthy, productive and biologically diverse seas and oceans. Furthermore, such shared resources are not confined just to the United Kingdom and as such, effective and efficient management needs consideration and collaboration at an international level.

Principles and oversight

13. The EU has effective institutions to provide enforcement of its environmental legislation, ultimately via the European Commission and the European Court of Justice (ECJ). **It is vital that the UK maintains communication with these and other regulation and knowledge exchange networks**, in addition to developing its own effective mechanisms, to ensure environmental standards are maintained and ambitions met. Further information on the importance of links with European networks is provided in the Royal Society of Biology's response to the 2018 Commons Science and Technology Committee Inquiry for the Brexit science and innovation summit.⁷
14. There are many opportunities for the UK to deliver environmental benefits through its own mechanisms, for instance through food chain governance, where a principle of '**public money for public goods**' could be beneficial. In addition, the '**polluter pays**' principle, with an emphasis on an 'extended producer responsibility' strategy could provide an effective and fair underpinning for future policymaking, and, combined with a greater emphasis on consumer responsibility, could deliver environmental benefits. Natural capital management in the built and urban environment should be a high priority with a large proportion of the population living, investing in and being influenced by urban settings. Ensuring beneficial outcomes of dwelling and business developments for local people and biota could bring real efficiency in ordinary times and mitigate damage in extraordinary circumstances such as unusual weather when temperature and water management are key health concerns. Considering the wide variety of needs across society, expert and up-to-date data will be vital. Sound evidence of attribution and expert assessment will be needed to underpin any principles in action, and their inevitable challenge. It is vital that there is a continuous and robust determination to ensure research and expert consultation is undertaken to extend the evidence base for policy, implementation and assessment.

The Society welcomes the Committee's inquiry on the 25 Year Environment Plan. We are pleased to offer these comments, which have been informed by specific input from our members and Member Organisations across the biological disciplines (see below). The RSB is pleased for this response to be publicly available.

For any queries, please contact the Science Policy Team at Royal Society of Biology, Charles Darwin House, 12 Roger Street, London, WC1N 2JU. Email: policy@rsb.org.uk

⁷ Royal Society of Biology, 2018. [RSB response to the Science and Technology Committee of the Commons Brexit science and innovation Summit inquiry](#)

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