

A response from the British Ecological Society to the House of Lords Select Committee on the Natural Environment and Rural Communities Act 2006

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Introduction

1. In line with the expertise of our membership, our response will focus on the questions related to the nature conservation functions of Natural England, sustainability and biodiversity, and the changing context since 2006.

How well has Natural England fulfilled the mandate that it currently has? How well do its wide-ranging functions fit together, and does it have the appropriate powers and resources to perform these functions?

Fulfilling the mandate

2. Natural England's general purpose, as defined by the NERC Act, is to "ensure that the natural environment is conserved, enhanced and managed for the benefit of present and future generations, thereby contributing to sustainable development". There are a number of different functions within this mandate, including biodiversity conservation, landscape enhancement, and the promotion of public access to and enjoyment of the natural environment. We do not have a position on whether or not Natural England should fulfil a range of functions.
3. It is difficult to objectively assess how well Natural England has fulfilled its functions, as the Act did not establish any quantitative benchmarks, for example related to the state of natural capital assets, against which to judge it.
4. To set Natural England's mandate in a wider context, it is important to note that recent assessments of the state of England's natural environment have painted a mixed picture. England lacks a comprehensive regular assessment of the state of its natural environment (in contrast to the State of Natural Resources report for Wales¹), with a strong reliance on data supplied by non-governmental organisations². However the most recent England Biodiversity Indicators show clear deterioration in the status of both priority species and species in the wider countryside, and negligible change in the condition of protected areas (despite an increase in their extent due to new marine designations)³. These trends should be viewed in the context of the considerable resource constraints placed on Natural England, as outlined below.
5. The Government's 2010 review of wildlife sites, *Making Space for Nature*⁴, highlighted the importance of both quality protected sites and landscape-scale measures for the creation of a "resilient ecological network". However the trends outlined above indicate both insufficient progress of targeted conservation measures and the lack of appropriate action in the wider countryside. This is acknowledged in Natural England's new conservation strategy, which outlines the need for a "fundamental" shift to work at a "much larger scale"⁵.

¹ Natural Resources Wales (2016) *State of Natural Resources Report (SoNaRR): Assessment of the Sustainable Management of Natural Resources, Technical Report*.

² Hayhow *et al.* (2016) *State of Nature 2016*. The State of Nature Partnership.

³ Defra (2017) *Biodiversity 2020: a strategy for England's wildlife and ecosystem services – Indicators*. Defra, London.

⁴ Lawton, J.H. *et al.* (2010) *Making Space for Nature: a review of England's wildlife sites and ecological network*. Report to Defra.

⁵ Natural England (2016) *Conservation 21: Natural England's Conservation Strategy for the 21st Century*

6. Natural England's primary mechanism for fulfilling its conservation mandate in the wider countryside has been the delivery of agri-environment schemes under the Common Agricultural Policy. Across the EU, while some targeted agri-environment measures have successfully delivered local biodiversity benefits, for example under the Higher Level Stewardship scheme in England, they have failed to deliver large-scale environmental improvements⁶.
7. Developing a post-Brexit system of agricultural support based on the delivery of environmental outcomes and public goods (such as flood mitigation or recreation) offers an opportunity to improve environmental outcomes in the wider countryside⁷. Such a system could cut across Natural England's diverse functions, and should be underpinned by collaboration with other agencies with overlapping mandates, such as the Environment Agency and local authorities, as well as farmers, local communities and other stakeholders.

Resource constraints

8. A major constraint on Natural England's recent ability to fulfil its mandate has been the significant cuts to the agency's budget since 2010. As an executive non-departmental body, Natural England's primary source of funding is grant-in-aid from Defra. This grant has been reduced by roughly 60%, from £263 million in the 2009/10 financial year⁸, to £106 million in 2016/17⁹. Correspondingly, the agency's total expenditure has fallen from a high of £257 million in 2010/11¹⁰ to £155 million in 2016/17^{9,11}.
9. These budget cuts have led to significant reductions in staffing levels – over 20% since 2010¹² - and a corresponding loss of specialist (including ecological) expertise within the organisation. These resource constraints have had impacts on the ground, for example through the reduction in staff capacity to spend time in the field. A review of a recent agri-environment scheme found that in seven years only 24% of agreements kept the same adviser, and the lack of follow-up visits limited scheme effectiveness¹³.

Is the duty to 'have regard' to biodiversity, which is contained within the Act, well understood by those bodies to whom it applies? Is any further work required to raise awareness of the duty?

10. The Act introduced a duty on all public authorities to have regard to "the purpose of conserving biodiversity", defined broadly as being "in relation to a living organism or type of habitat, restoring or enhancing a population or habitat".
11. Only one review of the impact of the duty has been conducted, in 2010¹⁴, which found that awareness of the duty varied considerably between different public bodies, and while a wide range of work relating to biodiversity conservation had been carried out, this could not all be attributed to the duty. Lack of money, resources, and tailored guidance were identified as key barriers to implementation of the duty.
12. The review made a number of recommendations for improving awareness and implementation of the biodiversity duty, including encouraging all public bodies to have a corporate biodiversity strategy and to be able to access appropriate ecological advice, and for Defra to produce sector specific guidance on implementing the duty. These recommendations have so far not been put into practice by government.

⁶ Batáry, P. *et al* (2015) The role of agri-environment schemes in conservation and environmental management, *Conservation Biology*, 29(4), pp1006-1016.

⁷ See our response to the Environmental Audit Committee inquiry on the Future of the Natural Environment after the EU Referendum <http://bit.ly/2lbB0bD>

⁸ Natural England (2010) Natural England Annual Report and Accounts: 1 April 2009 to 31 March 2010

⁹ Natural England (2017) Natural England Annual Report and Accounts: 1 April 2016 to 31 March 2017

¹⁰ Natural England (2011) Natural England Annual Report and Accounts: 1 April 2010 to 31 March 2011

¹¹ Expenditure does not include the Rural Development Programme (agri-environment schemes), which is delivered by Natural England, but accounted for by Defra.

¹² <https://www.civilserviceworld.com/interview-dave-webster-natural-england>

¹³ Boatman, N. *et al* (2014) *Agreement scale monitoring of Environmental Stewardship 2013-4: Assessing the impact of advice and support on the environmental outcomes of HLS agreements*. Natural England Contract reference LM0432.

¹⁴ ENTEC (2010) *CTX 0811: Review of the Biodiversity Duty contained in Section 40 of the NERC Act 2006. Final Report*.

13. The lack of ecological expertise within local authorities – who have an important role to play in implementing the biodiversity duty – is of particular concern, with a 2013 study concluding that only one-third of planning authorities in England have access to in-house expertise¹⁵.
14. Guidance available to public bodies on implementing the biodiversity duty is limited and has been reduced over time. While detailed guidance (182 pages) was produced in 2007¹⁶, this has since been withdrawn and replaced with a single webpage¹⁷, in line with a general consolidation of published environmental guidance as part of Defra’s Smarter Environmental Regulation Review¹⁸.
15. Improved monitoring of the implementation of the biodiversity duty by Defra would assist in determining whether further work is required to raise awareness of the duty.

What has been the practical impact of the 2006 duty? Is any modification to the duty required as a result of developments in our understanding of the value of ecosystems and biodiversity since 2006?

Defining biodiversity

16. While understood simply as ‘the variety of life on earth’, biodiversity is a multifaceted concept that can be defined and measured in different ways. This complexity is illustrated by the Convention on Biological Diversity (CBD), which defines biodiversity as “the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and ecosystems.”¹⁹
17. The relative importance placed on these different aspects of biodiversity has changed as different framings of the purpose of conservation have emerged, underpinned by advances in ecological science²⁰. While a focus on preserving habitats and species populations (as suggested within the duty) may prioritise the number of different species (“species richness”), recent approaches that emphasise the dependence of people on ecosystem processes may place more importance on the diversity of roles species play within ecosystems (functional diversity)²¹, and the overall resilience of these ecosystems²². Recent research suggests that focusing solely on species richness is insufficient to capture changes in biodiversity in changing environments²³.

Ecosystem services and natural capital

18. Since 2006, the concepts of “ecosystem services” (the benefits people derive from the natural world e.g. food, flood protection or recreation) and “natural capital” (the stock of natural assets from which these benefits flow, e.g. clean air, water or soil) have become increasingly influential in ecological science and environmental policy. This approach seeks to quantify and value the societal and economic benefits derived from the natural world, as exemplified by the UK National Ecosystem Assessment²⁴, and the work of the government’s Natural Capital Committee²⁵.
19. Natural England’s recent conservation strategy, includes “growing natural capital” as one of its key principles⁵. However a duty to conserve natural capital or ecosystem services is not currently enshrined in English legislation.

¹⁵ Oxford, M (2013) *Ecological Capacity and Competence in Local Planning Authorities: What is needed to deliver statutory obligations for biodiversity?* Report published by the Association of Local Government Ecologists.

¹⁶ Defra (2007) *Guidance for Public Authorities on Implementing the Biodiversity Duty*. Department for Environment Food and Rural Affairs: London.

¹⁷ <https://www.gov.uk/guidance/biodiversity-duty-public-authority-duty-to-have-regard-to-conserving-biodiversity>

¹⁸ <https://www.gov.uk/government/collections/better-regulation-in-defra>

¹⁹ <https://www.cbd.int/convention/articles/default.shtml?a=cbd-02>

²⁰ Mace, G, (2012) Whose conservation?, *Science*, 345, pp1558-1560.

²¹ Petchey, O.L. and Gaston, K.J. (2006) Functional diversity: back to basics and looking forward, *Ecology Letters*, 9, pp741-758.

²² Oliver, T.H. *et al* (2015) Biodiversity and resilience of ecosystem functions, *Trends in Ecology and Evolution*, 30(11), pp673-684.

²³ Hillebrand, H. *et al* (2017) Biodiversity change is uncoupled from species richness trends: consequences for conservation and monitoring, *Journal of Applied Ecology*, DOI 10.1111/1365-2664.12959.

²⁴ UK National Ecosystem Assessment (2011) *The UK National Ecosystem Assessment: Synthesis of the Key Findings*. UNEP-WCMC, Cambridge.

²⁵ <https://www.gov.uk/government/groups/natural-capital-committee>

20. It is important to note that neither natural capital nor ecosystem services are synonymous with biodiversity. The relationship between biodiversity, ecosystem processes and the provision of ecosystem services is complex and uncertain, as is the relationship between natural capital “assets” and benefits. Biodiversity can be understood as both an element of natural capital that underpins the provision of services (and is therefore integral to the maintenance of those assets), and as an output, or benefit in its own right^{26,27,28}. Some critics have argued that because of this complexity, biodiversity is often insufficiently represented in natural capital accounts²⁹.
21. Similarly, with respect to ecosystem services, while studies have suggested that species rich communities may have a higher level of ecosystem function³⁰, and there are often synergies between maintaining and enhancing ecosystem services, and conserving biodiversity, this is not automatically the case. For example, focusing on protecting pollination services may recognise the importance of wild bees, but could also focus efforts on the small number of common species that carry out most crop pollination, at the neglect of rare species that are infrequently observed on crops³¹.

Modification to the duty

22. Any modification of the duty to incorporate ecosystem services and/or natural capital, should therefore be considered as an addition to rather than a replacement of the existing biodiversity duty.
23. An exemplar of this approach is the enhanced “biodiversity and resilience of ecosystems duty” recently introduced in Wales through the Environment (Wales) Act 2016. Public bodies must “seek to maintain and enhance biodiversity...and in doing so promote the resilience of ecosystems”, taking into account: diversity between and within ecosystems, connections between and within ecosystems, scale of ecosystems, the condition of ecosystems (including their structure and functioning), and the adaptability of ecosystems. However as this duty is relatively new, its effectiveness has not yet been tested in practice.
24. While this enhanced duty better reflects current scientific understanding of the value of ecosystems and biodiversity, it also introduces new challenges of measurement, particularly given the focus on resilient ecosystems. Resilience can be defined as the degree to which an ecosystem can resist or recover rapidly from environmental disturbance, and is increasingly recognised as an important feature if ecosystems are to adapt to a changing climate, withstand shocks and sustain delivery of vital ecosystem services^{32,33}. However the definition and components of resilience, and its relationship to biodiversity, are subjects of live scientific debate³⁴. Establishing appropriate measurements and indicators for resilient ecosystems is therefore a significant challenge³⁵, although recent advances in biomonitoring technologies offer a potentially powerful approach^{36,37}.
25. The introduction of a broader natural capital duty could extend beyond biodiversity to include a duty to maintain and enhance a range of natural capital stocks, including clean water, air and soil. For any such duty to be effective, it would require a comprehensive framework for measuring, monitoring and valuing natural capital, including quantifiable scientifically-based target outcomes. Aligning the biodiversity duty with such an approach could include a corresponding target for biodiversity gain. Defra’s forthcoming 25 Year Environment Plan for England should provide such a framework³⁸.

²⁶ Adams, W. (2014) The value of valuing nature, *Science*, 346 (6209), pp549-551

²⁷ Mace, G.M., Norris, K. and Fitter, A.H. (2012) Biodiversity and ecosystem services: a multilayered relationship, *Trends in Ecology and Evolution*,

²⁸ Mace, G.M. et al (2015) Towards a risk register for natural capital, *Journal of Applied Ecology*, 52, pp641-653.

²⁹ Bolt, K. et al (2016) *Biodiversity at the heart of accounting for natural capital*. Cambridge Conservation Initiative.

³⁰ Lefcheck, J.S. et al (2015) Biodiversity enhances ecosystem multifunctionality across trophic levels and habitats, *Nature Communications*, DOI: 10.1038/ncomms7936

³¹ Kleijn, D. et al (2015) Delivery of crop pollination services is an insufficient argument for wild pollinator conservation, *Nature Communications*, DOI:

10.1038/ncomms8414

³² Oliver, T.H. et al (2015) Biodiversity and resilience of ecosystem functions, *Trends in Ecology and Evolution*, 30(11), pp673-684.

³³ Welsh Government (2017) *Natural resources policy*. Welsh Government, Cardiff.

³⁴ Hodgson, D. et al (2015) What do you mean, ‘resilient’?, *Trends in Ecology and Evolution*, 30 (9), pp503 – 506.

³⁵ Natural Resources Wales (2016) *State of Natural Resources Report (SoNaRR): Assessment of the Sustainable Management of Natural Resources: Technical Report*. Natural Resources Wales.

³⁶ Bohan, D.A. et al (2017) Next-Generation Global Biomonitoring: Large-scale, Automated Reconstruction of Ecological Networks, *Trends in Ecology and Evolution*, 32 (7), pp477-487.

³⁷ Evans, D.M. et al (2016) Merging DNA metabarcoding and ecological network analysis to understand and build resilient terrestrial ecosystems, *Functional Ecology*, 30, pp1904-1916.

³⁸ Natural Capital Committee (2016) *Improving Natural Capital: An assessment of progress*. Fourth report to the Economic Affairs Committee.

How does the English duty to ‘have regard’ to biodiversity compare to the Scottish duty to ‘further’ biodiversity and the enhanced biodiversity duty introduced in Wales in 2016?

26. The four nations of the UK each have slightly different legal biodiversity duties that apply to all public bodies. Outside of England, these duties are contained within the Nature Conservation (Scotland) Act 2004 (amended by the Wildlife and Natural Environment (Scotland) Act 2011), the Wildlife and Natural Environment (Northern Ireland) Act 2011, and the Environment (Wales) Act 2016.
27. The legal biodiversity duty in Scotland and Northern Ireland is similar in structure to the English duty, yet places a more direct obligation on public bodies to “*further* the conservation of biodiversity”. As outlined above, the Environment (Wales) Act 2016 introduced an “enhanced” biodiversity duty in Wales.
28. To date there has been no substantive research or evaluation comparing the impact of these different duties on biodiversity conservation outcomes across the UK. The 2010 Defra review of the English biodiversity duty found no evidence that the Scottish duty had been more effective at delivering biodiversity benefits¹⁴.

Reporting requirement

29. In Scotland and Wales, the biodiversity duty is enhanced by the requirement that public bodies must report on how they are implementing and complying with the duty at three-yearly intervals. Introducing a reporting requirement could provide a simple way of strengthening the English duty.
30. Local authorities in England were previously expected to report against their performance in managing local wildlife sites, as a proxy for the state of local biodiversity (National Indicator 197)³⁹. While this indicator was relatively weak given that it was not related to planning, it was discontinued in 2010, and there are now no requirements on public authorities to report on any aspect of biodiversity performance. Reporting requirements could potentially be extended to large businesses, as has been introduced for greenhouse gas emissions by the Climate Change Act 2008 and the Companies Act 2006 (Strategic Report and Directors’ Report) Regulations 2013⁴⁰.
31. While introducing a legal reporting requirement will not automatically lead to full implementation of the biodiversity duty, it provides a clear measure of success. A review of the first round of reporting against the Scottish duty found that 44% of public bodies had submitted reports, with lack of awareness, resource constraints and insufficient guidance cited as barriers to greater compliance⁴¹. Similarly, effective monitoring of biodiversity outcomes, not just intended actions, is essential.

Will the structures established by the Act be sufficient to ensure appropriate protection for nature and environmental standards following Brexit? Are any modifications or changes to the structures established by the Act required to address the implications of Brexit?

32. The structures established by the NERC Act, coupled with the Government’s proposals in the European Union (Withdrawal) Bill to transfer all EU law onto the UK statute book, do not currently contain sufficient provisions to guarantee appropriate protection for environmental standards following Brexit. While the EU (Withdrawal) Bill may transfer the letter of the law, the loss of the supervisory, enforcement and scrutiny functions of the European Commission (EC) and the Court of Justice of the European Union (CJEU), without adequate replacement by domestic alternatives, risks undermining the effectiveness of legislation and therefore maintenance, let alone improvement, of environmental standards⁴².

³⁹ Butterworth, T. and Martin, R. (2008) *National Indicator 197*, South East England Biodiversity Forum.

⁴⁰ <https://www.gov.uk/guidance/measuring-and-reporting-environmental-impacts-guidance-for-businesses>

⁴¹ Daly, E. Fenn, T., and Miller, J. (2016) Evaluation of the Compliance and Quality of Biodiversity Duty Reports 2015. Scottish Government Research Findings 4/2016. Scottish Government: Edinburgh.

⁴² UKELA (2017) *Brexit and Environmental Law: Enforcement and Political Accountability Issues*. UKELA, Bristol

33. One of the functions of the EC is to monitor Member State compliance with and implementation of the commitments made under EU laws; a function that has been particularly active in the environmental field. This is achieved through regular reporting requirements, and distinctive enforcement powers including a formal notice from the EC, a Reasoned Opinion, and application to the CJEU, which has the power to impose financial penalties on Member States. The EC's citizen's complaint procedure allows anyone to alert it to a possible infringement free of charge.
34. In Ministerial statements⁴³ and the accompanying notes to the European Union (Withdrawal) Bill⁴⁴, the Government has stated that existing domestic legal provisions, primarily the system of judicial review, will provide the core mechanism for holding Government to account for its legal environmental obligations following Brexit. However the UK Environmental Law Association (UKELA) has stated that "judicial review is not equivalent to an independent supervisory body such as the European Commission"³⁹, and a recent House of Lords inquiry reported that evidence strongly suggested "that an effective and independent domestic enforcement mechanism will be necessary"⁴⁵.
35. UKELA have suggested that Brexit offers an opportunity to "innovate and improve on our domestic mechanisms for ensuring that duties on government and other public bodies are properly implemented"⁴². This could include amending reporting requirements from the European Commission to the UK Parliament and devolved legislatures, or the creation of an institution such as a "Parliamentary Commissioner for the Environment" to provide independent environmental expertise in the supervision of government and public bodies, able to resolve disputes and helping Parliament to ensure accountability.
36. Given the lack of parliamentary time and willingness to introduce wholesale changes to UK environmental law before Brexit (in line with the principles of the European Union (Withdrawal Bill)), amendments to the NERC Act could present a possible means of embedding some of the supervisory and enforcement functions and institutions outlined above into UK law. However without substantial additional resources, expertise and the establishment of appropriate institutions, this would not replace the oversight and accountability frameworks performed by EU institutions. Clarity over governance arrangements and the future role of existing institutions, including Natural England, should be established as soon as possible.

Are there any further parts of the Act which are currently in force that need to be re-considered as a result of developments since 2006?

37. Section 41 of the Act requires the Secretary of State to publish a list of "the living organisms or types of habitat" that are "of principal importance for the purpose of conserving biodiversity" (commonly referred to as priority species and habitats), and to take steps that are "reasonably practicable" to further their conservation. Importantly, these species are recognised in the National Planning Policy Framework^{46,47}. However, in the context of the resource constraints outlined above, Defra funding to Natural England is often insufficient to adequately monitor certain species, or conduct research to understand the reasons for their decline, before even considering practicable, evidence-based conservation action.
38. This lack of successful conservation action is demonstrated by the index of relative abundance of UK priority species, which has exhibited a 32% decline since its 1970 baseline, and an 18% decline since 2010³. Similarly, a 2013 expert assessment of priority actions needed for the recovery of species identified under Section 41 of the Act identified the majority of actions as "yet to start"⁴⁸. Amending the Act to clarify the minimum compliance requirements for Section 41 could help to drive appropriate action, if accompanied by sufficient resources.

⁴³ HL Deb 23 March 2017, vol 782, cols 342-43. <http://bit.ly/2vcC7h6>

⁴⁴ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/627999/Environmental_protections_factsheet.pdf

⁴⁵ <https://publications.parliament.uk/pa/ld201617/ldselect/ldeucom/109/109.pdf>

⁴⁶ Department for Communities and Local Government (2012) *National Planning Policy Framework*. Department for Communities and Local Government, London.

⁴⁷ Hopkins, G.W. and Thacker, J.I. (2016) Protected species and development control: the merits of widespread invertebrate species in the European Habitats Directive and UK legislation, *Insect Conservation and Diversity*, doi: 10.1111/icad.12171

⁴⁸ <http://publications.naturalengland.org.uk/publication/4958719460769792>