Introduction

1. The Natural Environment Research Council (NERC) is one of the UK’s seven Research Councils. We are the driving force of investment in environmental science. We advance the frontiers of knowledge by commissioning new research, infrastructure, innovation and training that delivers valuable scientific breakthroughs. Our science explores the physical, chemical and biological processes on which our planet, life and economy depends – from safe food and water to energy and minerals, from air quality and flooding to long-term changes in our environment and climate.

2. Understanding our changing planet is fundamental to our future wellbeing and economic prosperity. The environment we live in directly enables – and can limit – human health, productivity and economic growth. Every business and public service, every consumer benefits from natural resources (for example minerals, energy, water and food) while incurring the economic and health costs of environmental hazards, pollution and degradation.

3. We work in partnership with business, government and society to deliver solutions to UK and global challenges. Together we deliver new ways of living, doing business, escaping poverty and growing prosperity.

Example case study:
NERC researchers helped South West Water to design and pioneer the UK’s first ‘valuing nature’ auction, a Payments for Ecosystem Services (PES) scheme. SWW incentivised farmers to reduce pollution at source, eliminating the need to invest in expensive infrastructure and water treatment downstream. The win:win arrangement saved money for the taxpayer and the water customers, proved more efficient than previous schemes, and generated a benefit-to-cost ration of 65:1, and also improved local water quality\(^1\).

4. Our environmental science is world-leading and highly collaborative – harnessing the world’s best scientists and knowledge to tackle complex environmental, economic and societal challenges. The benefits of NERC environmental science are felt right across the UK. Our science has delivered real benefits to people, economies and the environment in every UK region.

5. In this response, we focus on issues most relevant to NERC and to the environmental science domain (questions 2, 4 and 10).

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\(^1\) NERC. (2012) Farmers bid to reduce river pollution and encourage wildlife
Rural advocacy and the Commission for Rural Communities

Question 2. Are sufficient measures being taken to ensure that policies are rural-proofed at national and local levels? Who is taking the lead on policy for rural areas – and who should be taking the lead on such matters?

6. NERC welcomes the formation of the ShARE\footnote{2} forum which has been set up by the UK agencies responsible for environmental regulation to coordinate mutually-beneficial projects and speak as one voice communicating cross-cutting evidence needs. This flexible framework for research and evidence collaboration on environmental issues between the five bodies in the UK and Ireland is to be commended. A holistic, systems-level approach is needed to recognise and realise the opportunities the environment presents for natural solutions if consideration is integrated across policy areas and organisational siloes.

Natural England

Question 4. 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?

7. NERC has extremely positive and close working relationships with Natural England, both with Natural England representation on our governance boards, and strategic engagement on joint research and innovation priorities. The publication of Natural England’s ‘Conservation 21’ strategy as a tool for engagement and stimulating innovative solutions to environmental problems is to be welcomed.

The changing context since 2006

Question 10. 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?

8. Exiting the EU provides a once-in-a-generation opportunity. There are crucial challenges and exciting opportunities that present from the UK leaving the European Union, including optimising sustainable environmental management and ensuring the resilience of our ecosystems and the quality of our water and air. There is the need to look to the medium-long term (10-25+ years) to define, prioritise and address knowledge gaps in the environmental science evidence base; robust environmental research and interdisciplinary knowledge can address these challenges to inform decisions and pioneer innovative policies and solutions to simplify environmental regulation, provide joined-up incentives, enable resource efficiency and drive up productivity.

\footnote{2} Shared Agencies Regulatory Evidence Programme (https://www.sepa.org.uk/about-us/how-we-work/our-research/share/)