

Natural England's Science and Evidence: Top 10 questions and offer to partners



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Natural England is the statutory adviser on the natural environment in England, and our overarching purpose 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.” In delivering this purpose, our core role is to provide evidence-based advice, making best use of all available science and evidence that can help us to deliver benefits for people, places and wildlife from a healthy natural environment and its rich cultural heritage. We will continue to maintain and develop strong working relationships across the science and environment sectors, collaborating across shared interests to gain the greatest benefit from new thinking, technologies, data and evidence.

The broad themes we seeking to address through science partnerships?

The following ten questions have been developed as key forward-looking, strategic areas of evidence where we need to make progress to ensure that we can underpin our evidence, advice guidance and actions across our remit. They sit within the broader set of questions set out in the [Defra Group's Areas of Research Interest](#), published in March 2017.

1. Where and how should we develop resilient ecological networks, to include integration of benefits to people associated with the restoration of natural processes?
2. How can we best construct attributes, indicators and metrics to monitor the state of the natural environment, including natural capital assets?
3. How might opportunities from emerging science and innovation help shape our understanding and enhance the measurement of ecosystem structure, processes and function?
4. How, where and why is the natural environment changing and what are the likely drivers of future change?
5. What are the natural environment and socio-economic attributes and indicators of resilience that support the conservation of terrestrial and marine biodiversity, landscapes and geodiversity?
6. How can we further develop sustainable agriculture and fisheries to secure environmental outcomes, including new approaches to deliver the niche requirements of species that are more compatible with modern agriculture than the current approach of mimicking traditional practices?
7. How might changes in the natural environment affect people's health and wellbeing? What interventions can enhance the benefits and mitigate any negative impacts?
8. What is the potential of Big Data analyses and modelling to improve our handling of current complexities and uncertainties associated with environmental outcome delivery?
9. What do people and communities across England want and need from the environment? How can we integrate evidence about people's behaviour, their values to influence local partnerships and enable effective decision making to realise the benefits provided by the environment into economic, social and spatial planning?
10. What are the fundamental ecological requirements of Priority Species in order that we can better identify and trial potential recovery solutions

What is our offer to the science and evidence community?

We can only effectively address these issues by working in partnership with others. Natural England offers partners in the scientific community the following

- **Impact and outcomes:** We provide evidence and expert advice to support strategy development, policy making and on-the-ground delivery to bring about real changes in real places.
- **Expertise and capabilities:** Natural England is both a user and a producer of evidence and we are experts in bridging between the two. We have numerous specialists and other experts covering a wide range of disciplines and application areas - including from ecology to economics and from sociology to soil science.
- **Data and information:** We also hold a wealth of data and information from a range of monitoring and other activities. We have already made much of our data available through data.gov.uk and we are strengthening our mapping, analytical and modelling capabilities. We are keen to work with others to help them access, make sense of and use our data holdings and collaborate in analysis and modelling and developing value-added information.
- **Sites and places:** We operate across the country in both towns and countryside; at the coast and out to sea. We oversee a network of 224 [National Nature Reserves \(NNRs\)](#), which can be used as 'outdoor laboratories'. We also designate and advise on management of protected areas such as sites of special scientific interest (SSSIs) and marine conservation zones (MCZs). We are rolling out the England Coast Path. We are prioritising action within 122 national Focus Areas where our local area teams connect with a wide range of stakeholders across government, business and civil society
- **Opportunities for individuals:** We are increasing our engagement with the wider science and evidence community to help shape and deliver research, knowledge exchange, innovation, training and impact. We are keen to explore opportunities for closer collaboration, for example by hosting fellowships, internships, placements and secondments, running seminars and supervising students.
- **Convening:** Natural England is the statutory adviser on matters relating to our statutory purpose on the natural environment in England and this gives us a unique ability to bring stakeholders together and help increase impact the across the UK and internationally. We can help others draw on this convening power to pull together consortia and partnerships of mutual interest and we can facilitate access to individuals and active groups active in the natural environment sector on land and at sea.
- **Facilities:** as mentioned above, our network of 224 National Nature Reserves provides access to an unrivalled suite of outdoor laboratories for field study, research, teaching and training. All of our NNRs are monitored and among these, we have particularly high quality monitoring data from 37 sites within the Long Term Monitoring Network. We also operate and have access to a range of monitoring, analytical and modelling services, including long-term habitat monitoring, spatial conservation planning, GIS modelling.

Where can I get more information?

We hope this document is just the start of a conversation and if you would like to continue talking with us, please get in contact with Rebecca Lodge (rebecca.lodge@naturalengland.org.uk or CSD.Communications@naturalengland.org.uk).