

Current environmental, economic and societal challenges are huge. Here we list eight natural capital priorities for science, policy and business needed to build back greener and reach Net Zero with benefits to nature. The priorities, and associated key questions for research and policy, have been synthesised from a NCI panel discussion with Prof. Sir Ian Boyd from the University of St Andrews, Ben Combes from PwC, Dr Laura Bellingan from the Royal Society of Biology and 120 participants held online on 14 January 2021.

1. We need to use the momentum and reach new audiences.

The public debate around responses to COVID-19 has created more space for scientists to talk about models and taking actions to not hit the worse-case scenarios. Similar discussions have been receiving greater attention for climate change and nature. Perhaps this has made us better able to think about taking short-term action to put off long-term harm. Natural capital should not be sold as a silver bullet, but one tool among others to conceptualise and generate data for decision-making. We need to get people talking from across society and find room for consensus about better environmental management.

Key questions

- How might the political and financial vulnerabilities, exposed by the pandemic, be used to accelerate progress on natural capital approaches and conservation overall?
- Could natural capital be the framework for addressing economic, environmental and health inequalities?
- Can technology help in collecting non-market preferences about the public good?

2. Natural capital thinking needs to be mainstreamed into local and national decision-making.

Natural capital thinking poses an intellectual challenge, as putting a value on nature is extremely difficult and people will always value things differently. Discussions about natural capital management bring together many approaches to managing and protecting nature for health, wellbeing and the economy, particularly for political and economic decision-making. We need to win hearts and minds to transform local and national decision-making, highlighting and mainstreaming success stories on natural capital implementation. We also need to raise awareness of our impacts and dependencies on nature to support action on a personal level.

Key questions

- What national government structures facilitate mainstreaming natural capital decision-making?
- What enforcement or encouragement is needed?
- How can we mainstream natural capital thinking at a personal level (e.g. making information accessible on embedded carbon in the food we buy, and other consumption decisions)?

3. Nature needs to be embedded in the economy.

The pandemic has increased people's understanding of our dependency on nature. It has also shown the lack of resilience in economic systems, particularly in global supply chains. [The Dasgupta Review on the economics of biodiversity](#), commissioned by HM Treasury, could move our understanding of the value of nature and its sustainable management for economic prosperity forward. However, there could also be an understandable wish to get back to "normal", or "how things were before", which could negatively influence investment in greening the economy.

Key questions

- How can economies identify the human and planetary limitations within which to work sustainably?
- Is the focus on GDP serving us well; does it mean we could become locked into a growth economy?
- How can we move more quickly to standardise the measurement and accounting for natural capital?
- How can natural capital approaches also address economic and health inequalities?

4. We need metrics that demonstrate to policy-makers, businesses and local communities that natural capital has sustainable value.

We need to build simple and transparent metrics into business and public sector cost-benefit analyses that indicate the scale of biodiversity impacts and whether they are good or bad. Biodiversity indicators need to be part of a suit of indicators and [Defra's Biodiversity Metric 2.0](#) is a start towards building the necessary chain of evidence. GDP does not account for the depreciation of natural capital and therefore encourages unsustainable economic growth and biodiversity decline. The Dasgupta Review calls for introducing natural capital accounting into national accounting systems as a step towards inclusive wealth as a measurement of progress.

Key questions

- How can we improve understanding of how natural capital is changing over different time scales?
- What tools and mechanisms do government and companies need to measure natural capital?
- What would help us communicate costs and benefits from natural capital solutions and target argi-environmental and private funding?
- How can national ecosystem limits become part of economic metrics?



The Dasgupta Review on the economics of biodiversity, commissioned by HM Treasury, calls for change in our relationship with nature and how we measure economic success (Dasgupta 2021).

5. We need to get to Net Zero with broader benefits to nature.

We need a joined-up approach to environmental issues. We should not focus on Net Zero in isolation from other environmental and societal goals, and looking solely at carbon risks negative impacts elsewhere. Natural capital management can reduce carbon emission while preserving and enhancing biodiversity and supporting our health, wellbeing and economies, but it requires joined-up planning. Similarly, biodiversity conservation should not become limited to nature-based solutions to carbon emission reduction.

Key questions

- How do we prioritise a more joined-up, systemic approach to managing natural capital?
- How do we get government to move from net biodiversity gain to net environmental gain, to avoid focus on single issues?
- Which nature-based solutions provide multiple benefits for Net Zero, biodiversity, health and wellbeing?

6. Environmental impacts and trade-offs between different land-use choices need to be made visible, also globally.

We need to better understand land-use trade-offs between food security, biodiversity protection and climate mitigation both nationally and internationally, and in the short and long term. There is a risk of offshoring unsustainable practices and exporting environmental impacts through carbon offsets and trade without integrated governance and planning. Changes in consumption through shifting to healthier diets and reducing food waste can free up land for biodiversity and other uses. Artificial intelligence and technology can play an important part in informing better land-use choices by providing the access and analytics to big data on land use and consumption in the UK and overseas.

Key questions

- Do we need a comprehensive and cross-scale land-use planning strategy covering the global, national and local levels?
- How do we integrate governance and planning across sectoral interests from the uplands to the sea to achieve more sustainable use of natural capital?
- How do we enable and encourage land managers to derive revenue from ecosystem services other than food and timbers, such as natural flood management?



Integrated land management is the focus in approaches such as [wholescape thinking](#) (NCI 2019) and [multifunctional land use](#) (Royal Society 2021).

“There is so much value in getting people to talk from across science, policy and business to advance discussions about the many things we consider under natural capital thinking and to find room for consensus about better environmental management.”

Dr Laura Bellingan, NCI chair

7. We need to engage people in decision-making that uses AI and models.

Innovation is needed in both technology and finance. AI can illuminate ways to do things differently, particularly around discovery and optimisation of land-use. Everyone needs to get involved in conversations about how data and tools are used. AI and models need good data to go in, in order to get good data out, and we need to communicate what data and assumptions were used to get results. Everyone can think about how to use technology and data to help, whether a lawyer, economist, policy-maker or a biologist collecting data on birds.

Key questions

- How could governance mechanisms help people to engage positively with decision-making using AI and models?
- How much can technology play a part in delivering transformative change and supporting other important decisions, e.g. behavioural change, education and alternative economic systems?
- How do we make sure that AI produces data and products that are accessible and result in real change for practitioners?

8. Nature could be embedded in legislation across government.

We need a vision of a desirable and sustainable future for the UK and the world that embeds goals and targets in a systematic manner. UK targets need to be aligned with international frameworks and targets. We need ways of measuring if we want to be on track to achieving our UK targets and understanding our contribution to collectively achieving global targets. Natural capital has been a platform for talking about general environmental concerns but we need to focus on something that can be measured, such as biodiversity. The UK climate change legislation provided a framework towards a lower carbon economy, and a net zero target followed. A similar approach could be useful for biodiversity.

Key questions

- Do we need a legally binding target for natural capital, or is a framework enough?
- What would be a good legally binding target for natural capital in the Environment Bill or other environmental legislation?
- Do we need to know more to put biodiversity targets into legislation?

The Natural Capital Initiative is a partnership of leading science organisations promoting sound science to underpin natural capital decisions.

