The Oxford Nature Recovery Symposium

Monday 27th & Tuesday 28th March 2023
Sultan Nazrin Shah Centre, Worcester College, Oxford

Report

Symposium Overview

Aims
There has been a recent surge of interest in the science of nature recovery in the UK, alongside national and international policy pulls. However, there is still much to do if science is to effectively inform decision-making on nature recovery. In this symposium, we brought together researchers working on the science that could underpin planning for nature recovery with decision-makers and practitioners working within government, industry and civil society, to discuss how science could best be deployed to support decisions for nature recovery.

The Symposium aimed to:

- Highlight the work being done by researchers to understand the potential impacts of land use decisions on biodiversity, people, and landscape integrity, both empirical and conceptual and using a range of methodological approaches - in the UK and overseas.
- Explore synergies and gaps in the science currently being carried out by research groups across the country to inform nature recovery in the UK, including Biodiversity Net Gain and the implementation of the Environment Act.
- Understand different perspectives on the main questions which still need to be addressed in order to support effective land use planning in the UK.

Attendees
There were approximately 100 delegates, including researchers in ecology, conservation, economics, social sciences, and land use; NGOs, industry, local government, government departments, farmers, and practitioners.

Format
The Symposium was small and highly interactive, based around discussion groups rather than speeches. This facilitated collaboration and the generation of new ideas.

Key Takeaways

1. There is lot of good evidence on restoration, agri-environmental, rewilding approaches and outcomes. However, the availability of information and data is a large constraint for policymakers and practitioners. There is a need for place-based data sources, as well as up-to-date and accessible information on possible nature recovery approaches.

2. The urgency for action means we need a better understanding on how to catalyse local actions and activities. Can approaches like citizens assemblies do this, while ensuring equity and buy-in?

3. Combining a better overarching top-down strategic framework with bottom-up approaches will be critical. It will be particularly important to remove barriers in the short-term, to help farmers and landowners manage risks in an uncertain policy and market environment.

4. Spatial targeting is well developed, but to help local decision making we require fine resolution data and the ability to incorporate local knowledge. We also need to work across scales to ensure local projects align with national needs and priorities.

5. There was a general feeling that an ecosystem approach (with a focus on ecosystem processes, interaction webs, and ecological complexity) will allow us to be more flexible and adaptive compared to more traditional species and ecological community-based approaches. We need to account for the time lags inherent in nature recovery and climate change, and build from Lawton to consider creating diverse and spatially dynamic landscapes. This will help increase resilience.

6. We need to consider shifting baselines. Much monitoring starts at the earliest the 1970s, but there was huge amount of loss (just) before that. This leads to issues including extinction debt, baked-in ongoing loss, and a hostile landscape matrix.

7. More needs to be done to understand the offshoring issue beyond simplistic assumptions that allocating land for nature recovery will require more imports of meat, timber, etc. Conversations at the Symposium focussed a lot on farming, but with recognition that we shouldn't ignore other threats to nature e.g. non-point source pollution, pesticides, housing and infrastructure.

8. The current academic model is competitive, and recognition is based on papers produced. This may not be fit for purpose to achieve nature recovery, due to long timescales for research projects, slow outputs, data sharing issues, and lack of long-term interactions with partners. We must continue to move towards a data sharing culture, increase inter- and multi-disciplinary projects, engage in co-design, and use data science to create portals that allow efficient access to data.

9. There needs to be more funding for nature recovery from Research Councils. An inter-disciplinary, cross-sectoral approach that includes co-generation and sharing of policy/practice-relevant evidence was widely desired. It was noted that there is a particular need for understanding of how climate change will impact current understanding of nature recovery.
10. The policy environment is presenting a lot of opportunities as well as challenges, and there was a huge sense of excitement and goodwill in the room over the two days, to work together to address nature recovery.

Day 1

Session 1: Presenting the current policy and science landscape for nature recovery in the UK and beyond

- ***Presentation 1, What does biodiversity need for recovery?*** [James Bullock, Centre for Ecology and Hydrology]
- ***Presentation 2, What are the current policy opportunities for delivering recovery?*** [Julia Baker - Mott Macdonald]

Session 2: Breakout Group on Key Research Questions
What are the key research questions that need to be answered from the perspective of policymakers and practitioners, at different scales from local to national?

Key questions for policy advisors

- How do we achieve a shared language?
- What underpins our definition of a healthy ecosystem?
- How can we create tools for evidence-led decision making which recognises multiple benefits?

Key questions for NGOs

- How can we draw from on-the-ground voices to inform nature recovery?
- Can we provide resources for both accessing potential nature recovery initiatives and as a knowledge base for those wishing to undertake nature recovery initiatives?
- To what extent are we undervaluing natural capital relative to what we are actually losing?

Key questions for agriculture

- How do we refine & improve spatial targeting? One size doesn't fit all. What approaches are transferable and under what conditions?
- How do we enhance uptake and implementation of biodiversity friendly practices? How to onboard farmers who are less interested/willing? What determines willingness to participate?
- What is required for farms/farming to assist nature recovery? What is Regen Agriculture & how do we assess its outcomes?

Key questions for industry

- What counts as a success in BNG, and how does this vary across sectors and stakeholder groups? How does the concept of mitigating vs offsetting impacts to biodiversity affect our perception of success in BNG?
- What is the interplay between this set of emerging policy mechanisms (BNG, ELMs) and existing markets (e.g. carbon) as well as other targets (environment and people), in terms of outcomes and in terms of costs of achieving them?
- How do we better communicate research we already have to make it usable and valuable to industry, potentially for instance through tools that can integrate into existing reporting mechanisms (ESG, TNFD, SBT, etc)?

Session 3: Breakout Group on Methodological Approaches

What datasets and approaches are being used for fieldwork and modelling of land use change, its governance and its social impacts?

How do how do these approaches address the questions highlighted in Session 2?

Spatial Modelling Methodological Approaches

- There is good national (England/Britain) data on land cover and some aspects of biodiversity (i.e. from biodiversity portal). However, local data is patchy and often hard to access. Data on infrastructure exists but is hard to extract as it is at the local level
- Spatial data, including outputs from spatial models, is useful for local (i.e. parish) decision makers as it is a useful boundary object to start discussions on what exists locally, and how local actions can support nature recovery. We need landscape, regional, and national level spatial modelling to inform parish actions, and to avoid unintended consequences and undesired cumulative impacts.

- Spatial modellers need to better communicate how outputs fit into nature recovery. This takes us back to questions surrounding 'what good looks like', and requires honest addressal of the scale of the challenge.

Biodiversity Field Data Methodological Approaches

- There is lots of opportunity for new data types e.g. eDNA, passive audio, high temporal resolution multispectral imagery, handheld LiDAR, culturomics, drone NDVI.
- There will need to be transformation or repurposing of existing concepts and datasets, as well as novel data collection
- We already have amazing long-term datasets for monitoring land use change and its consequences

People's Wellbeing Methodological Approaches

- How do we capture, visualise, and deliver wellbeing benefits across different groups with different needs, using a variety of approaches? For example, how do we merge small qualitative datasets?
- Although there exists a plurality of incentives (pricing/cost-based) and benefits (e.g. values and mental health) for nature recovery, we need to think hard about which are useful at different scales, and which social problems should we be trying to solve
- Perhaps we need a framework, guidelines, and examples of what 'good' socially-just and value-inclusive nature recovery looks like? This could include examples of successful implementation of BNG and other conservation policies

Institutions and Governance Methodological Approaches

- We need institutions for environmentalists to develop a better dialogue with the general public
- There needs to be institutions for monitoring and evaluation of land management. This is a current governance gap
- There needs to be institutions for integrating non-monetary values into decision-making. Planning systems should be responsible for this, but often fall short

Day 2

Session 4: Breakout Group on Integration of Methodological Approaches

How can different aspects of nature recovery research, currently being carried out by different academic teams within the UK and in other countries, be better integrated to support land-use decisions?

Key Takeaways Across Breakout Groups

- We need to make sure research accounts for the different spatial scales, from bottom-up identification of problems and top-down policy
- We need to know who is doing what already, identifying synergies and avoiding stakeholder fatigue
- We need to provide research outputs at the right time (much earlier than happens now)
- We need to a full understanding of the people involved in decision making (including often forgotten actors, such as landscape architects in BNG)
- There is a lot of research happening on nature recovery, but it is often difficult to identify because of differences in terminology and limitations in accessibility
- We need to focus on availability, accessibility, and ease of use of research, to ensure it can be integrated into the everyday actions of stakeholders in different sectors. This includes building long term relationships between researchers and "end users"
- Consider scale of the research: downscaling and upscaling of information. We need bottom-up research that incorporates social science (for example, co-development), and there must be integration of top-down and bottom-up approaches
- The current academic approach isn't working

Session 5: Breakout Group on Evidence Gaps and Next Steps

Where are the gaps in evidence and understanding to support nature recovery policy and practice?
What are the key areas that require research attention, and how can this research be catalysed?

Key Takeaways Across Breakout Groups

- There are gaps in the data available for nature recovery. For example, what is the correlation between outputs [e.g. acres of wildflowers] and outcomes [e.g. biodiversity in wildflowers]? Contractual forms pay for outputs not outcomes, but we do not have understanding on what is the most effective form. There are also data gaps related to baselines, benchmarks, representative samples, granular local knowledge, and gaps in evidence on urban versus rural biodiversity
- There are gaps in knowledge communication, access, and transparency. We need to consider how to make existing data more available
- We could catalyse research to overcome these gaps by using different incentive structures in funding, research, and academia. For example, restructuring the framework for funding practical policy solutions. There also needs to be a new funding model for policy implementation
- Research could be better catalysed by scaling up collaboration across institutions and stakeholder groups
- We need to engage in increased monitoring and evaluation of nature recovery outcomes. What is "success"?
- There must be harmonization between local, national, and international processes
- How do we build from the bottom-up? How do engage, empower and amplify stakeholders in an inclusive way? How can we build and coordinate citizen assemblies that work well? What if we let people "do their thing"? Should we push control or get involved when needed? What are the key discourses driving Nature Recovery? Who is/isn't included?
- What are the scenarios and pathways of land use in the future? Where will forests and agriculture be? How might the effective ways of conserving change? How can we free up land? (e.g., consumer behaviour/diet)? Implications for exporting/offshoring impacts? What are the limits of Nature Recovery? Where should we not do Nature Recovery?
- We need a better understanding of private sector finance, including what they require (e.g., returns on investments) and how that impacts on trying to achieve Nature Recovery.

The Symposium was co-hosted by: The Agile Initiative at the Oxford Martin School, the Leverhulme Centre for Nature Recovery, University of Southampton, University of Exeter, UK Centre for Ecology and Hydrology, and University of Kent