



Leverhulme Centre
for Nature Recovery

YEAR 3

Annual Report from the Leverhulme Centre for Nature Recovery

1 June 2024 to 31 May 2025



Leverhulme Centre
for Nature Recovery

Our year at a glance 2024-2025

Research outputs

49 publications/journal articles

9 research reports

8 preprints

8 research-explainer videos

2 evidence submissions



Centre growth

40 members of staff

11 Different departments

50+ Partner organisations

7 Research themes

5 Research landscapes

Cultural engagement

1 film festival

2 art science workshops

Community building

Nature seminar series

30 seminars

5000+ attendees

10,000+ views online



Working with stakeholders

40+ lectures, presentations and meetings with stakeholders



Social media

 **12,000+**
new website users

 **7100+**
Bluesky followers

 **2300+**
LinkedIn followers

 **758**
YouTube subscribers

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Update from the Centre Director

“ This year marks a shift for the Leverhulme Centre — from momentum-building to strategic action. Our ideas are now resonating locally, nationally, and globally, with growing demand for our evidence, convening power, and interdisciplinary thinking. We now have the confidence to shape systems — not just respond to them.

From Oxford's meadows to cocoa farms in Ghana, our work is weaving together systems of ecology, society, finance, and health — drawing on technology, insights and imagination. The Centre has become a seedbed for ambitious thinking with real-world traction: from rethinking urban wildness and land-use frameworks to envisioning a financial system that works with nature, not against it.

Across landscapes and literatures, our research outputs continue to accelerate, and with them the evidence, methods, and relationships needed to make nature recovery practical, lasting and inclusive. At the heart of it all is the community we create — ambitious, collaborative, and curious — attracting world-renowned visitors and generating ideas that disperse far beyond Oxford.”

Yadvinder Malhi, Director



Early investment in relationships, people, and place-based research is bearing fruit. The Centre has evolved into a dynamic ecosystem of ideas and partnerships. This year we've seen the greatest volume of outputs from our largest body of researchers, who in turn have secured the most substantial amounts of complementary funding.

But numbers tell only part of the story. Our biggest achievements come from cultivating strong partnerships and deep interdisciplinary collaborations that are having impact at multiple scales.

Scales of impact

Local impact

We work with regional actors to co-design practical approaches to nature recovery:

- Co-developed the Local Nature Recovery Strategy with Oxfordshire County Council and Oxford Local Nature Partnership
- Supported the North East Cotswolds Farmer Cluster's successful Landscape Recovery bid
- A first-of-its-kind 'Citizens' Jury' brought together community members to discuss how people and nature can thrive together in Oxford. Guided by experts and facilitators, the jury co-created eight key recommendations and a shared vision for Oxford city
- Provided applied science for connecting nature recovery across Oxfordshire and the Oxford University Estate



Art and Nature in Blackbird Leys

Martha Crockatt and Mattia Troiano have explored equity in Oxford's urban greenspaces, using interdisciplinary methods to examine access and barriers to participation, culminating in a community workshop and academic paper.



National impact

We are increasingly seen as a trusted knowledge partner by government and national bodies:

- Ongoing collaboration with Defra on the Landscape Recovery scheme
- Coordinated submissions on planning reform, Environmental Land Management Schemes, and land use consultations
- National case study: Defra blended finance workshop and planning consultation response
- Supporting the British Ecological Society Symposium in Oxford on Nature, Farming and Food

National impact

- LCNR researcher [Natalie Duffus](#) recognised on the 2025 Ends Power List as an unsung hero – “a powerhouse in increasing public awareness around the ecological impacts of biodiversity net gain, and how to improve the policy both economically and ecologically”.
- Yadvinder Malhi featured in the list for the second year running as “a pioneering ecosystem ecologist”.



Global influence

Our work informs global policy and multilateral frameworks:

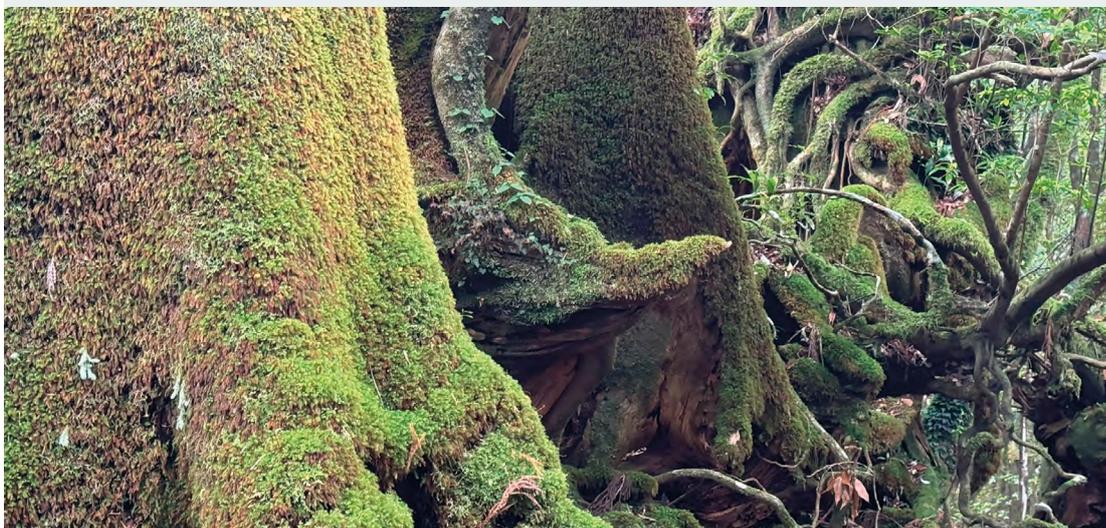
- Collaborating with the United Nations Development Programme to develop a new “Nature Relationship Index” that expands the definition of development to include how well people and nature are thriving together. The development is featured in Nature published in June 2025
- Researching global finance and biodiversity impacts
- Partnering with the World Cocoa Foundation on sustainable supply chains
- Fieldwork in Ghana and Kenya, with affiliate projects in Latin America and Asia
- Participated in the UN Biodiversity COP16 and preparing for the UN climate COP30

Global case study: Collaboration with David Cooper and Sandra Díaz

Sandra Díaz and David Cooper are internationally renowned figures in biodiversity and ecological science, now contributing their expertise as research associates to the Leverhulme Centre for Nature Recovery.



Díaz, a leading ecologist and former co-chair of the landmark IPBES Global Assessment, is globally respected for her work on ecosystem services and the role of nature in sustaining human well-being. She was recently awarded the Tyler Prize, the closest thing to a Nobel Prize for the environmental sciences. Cooper, formerly Acting Executive Secretary of the Convention on Biological Diversity, played a central role in shaping the Global Biodiversity Framework and was recently appointed Chair of the UK’s Joint Nature Conservation Committee (JNCC). Their involvement brings exceptional prestige to the Centre and significantly informs our Global Impact Strategy, ensuring it is grounded in world-leading science and aligned with international policy priorities.



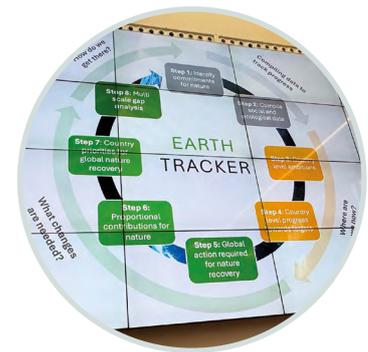
Emerging initiatives

As the Centre matures, we are moving from reaction to intention. With greater confidence comes boldness – to enter disruptive spaces while staying grounded in science.

New and exciting research threads are emerging.

NATURE Impacts

We launched the pilot phase of NATURE Impacts – the National Assessment Tool for Understanding Relative Environmental Impacts – in partnership with WWF. This global analytics tool will provide open, accessible data on biodiversity, helping people hold governments, countries, and businesses to account. By making environmental performance transparent, it empowers individuals and supports those already working towards global nature recovery goals. Information is power—will you help share it and stop nature loss?



Reimagining nature finance

Finance was not built to serve life – but what if it could be redesigned to do just that? We’re convening a diverse group for a three-day immersive experience in Wytham Woods – not a meeting, but a space to reflect and reimagine.

Current economic systems often reinforce environmental degradation, inequality, and commodification. Even innovative efforts remain trapped within this logic. Our work aims to challenge that foundation and envision alternatives. We will bring together experts and facilitators in a bid to think more radically, inspired by the very real solutions to embedding nature into the financial system presented to the Centre by Professor Nicola Ranger.



Reverse gaze

This interdisciplinary theme, piloted by social scientists, ecologists, and IT specialists, explores how to democratise nature recovery by reappropriating digital technologies – from remote sensing to AI.

In Ghana, we combine satellite and drone imagery with participatory mapping to uncover local perspectives on ecosystems and wellbeing. Future case studies and a Centre-wide horizon-scanning workshop are planned to expand the tools and knowledge engaged in this work.



Urban nature recovery

Urban rewilding is emerging as a serious field. While traditionally absent from rewilding discourse, cities are now embracing it.

We examined London's early beaver reintroductions and the public's adjustment to coexisting with wildlife, drawing comparisons to Berlin's longer history with urban beavers.

We are organising a knowledge exchange between rewilders and habitat managers from both cities. Other projects include research into urban wildflower meadows, connectivity, greenbelt change, and nocturnal urban ecologies.

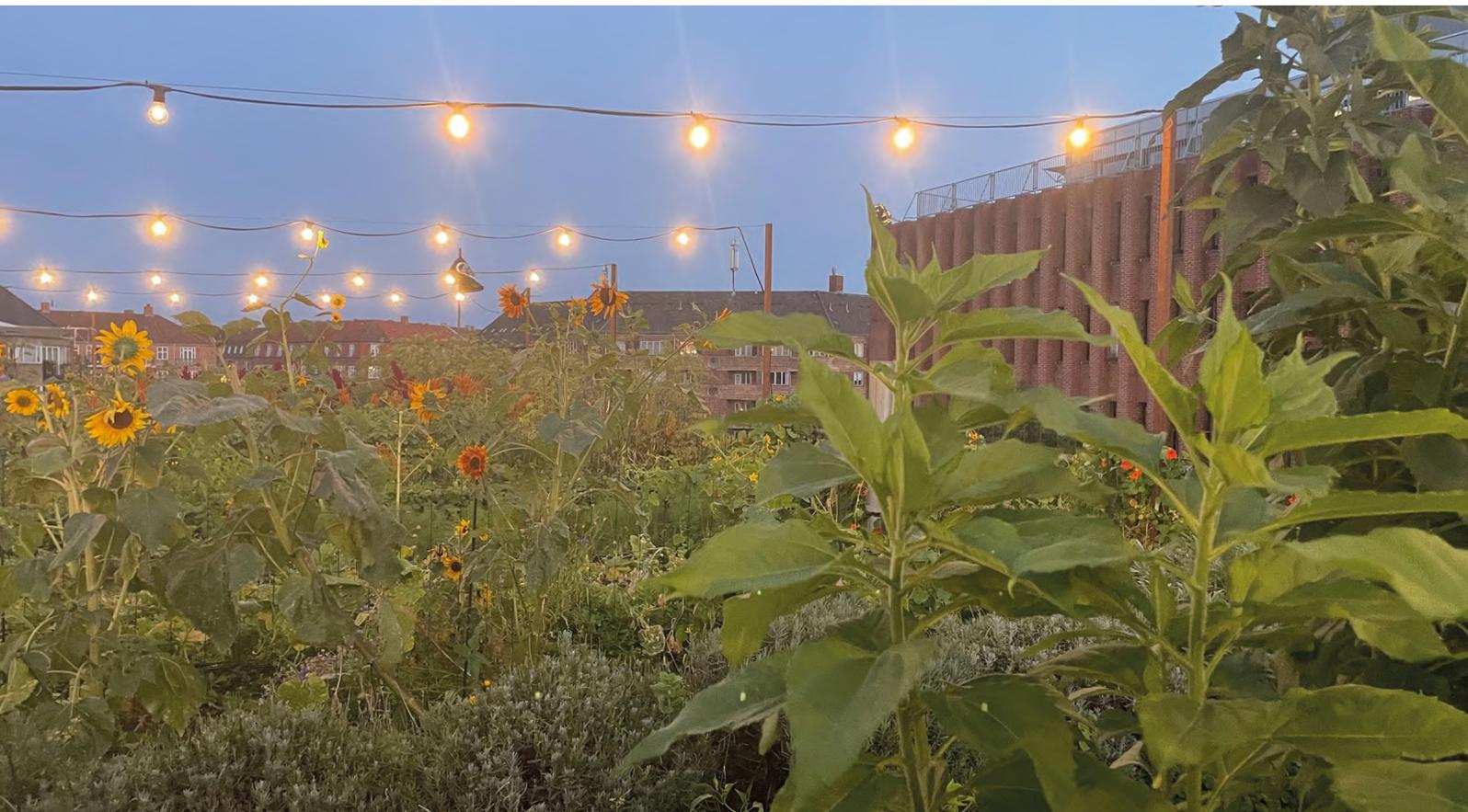


Ecological health

A multidisciplinary team tackled the complex question: what makes an ecosystem "healthy"? How can we measure nature recovery?

Through a reading group and hands-on workshop, we explored frameworks integrating ecological function, human values, and resilience.

This work is now informing new tools to assess recovery quality over time and space, and underpins academic outputs and applied trials with partners in the UK and Global South.



Ecology

We are leading trials across Oxford University lands on biodiversity-friendly farming, rewilding, and forest regeneration. Further afield our pioneering fungal work on the Knepp Estate and biodiversity studies in Kenya use ecological surveys, geological surveys, ecoacoustics and environmental DNA, seeking to understand and monitor ecosystem health from soil to canopy.

From Scottish forests to tropical carbon cycles and coral atolls, our research build a global evidence base for policy and restoration.

Scale and technology

Our findings — including articles featured on the covers of *Science* and *Nature* — show how tropical forest diversity supports climate resilience.

Combining fieldwork and UAV/satellite data, we are scaling research globally with AI tools.

Collaborating with Surrey Wildlife Trust, we're using historical maps to locate ghost ponds with high restoration potential.



Society

Our participatory governance research is shaping how UK nature recovery projects engage with communities. Outputs are in use across eight major initiatives and by Defra, Natural England, and Highlands Rewilding, among others.

We helped develop new national equity standards in nature and carbon markets.

In Ghana, we're collecting novel data on land tenure, wellbeing, and food security, supported by drone mapping. This informs new publications and deepens understanding of local contributions to nature recovery.

We've also examined the cultural politics of "messy landscapes," revealing how ideas of order and wildness shape public acceptance of restoration — and how to better communicate alternative ecological futures.

Health

We continue to explore how volatile organic compounds — the natural scents of green spaces — support wellbeing. Site studies show how exposure reduces stress, boosts mood, and improves cognition.

Our work investigates broader mental health links, with participatory green space assessments in Ghana and two UK-wide studies on the impact of greenery in schools and housing.

We studied how different features of greenness and tree characteristics influence mental health across different age groups in the UK, using spatial and longitudinal data to inform planning and health strategies.



Systems

Formerly our “Integration” theme, this strand now looks more broadly at the social, climatic, and economic systems shaping nature recovery.

This year, Professor Michael Obersteiner presented a land-use decision framework enabling spatial and temporal scenario testing to inform long-term planning.

Other highlights include:

- Publications in *One Earth* and *Methods in Ecology and Evolution* on biodiversity footprinting and academic-business collaboration
- New links with Aarhus and Lancaster universities. This work supports development of scalable, systems-based tools for UK and international recovery planning.

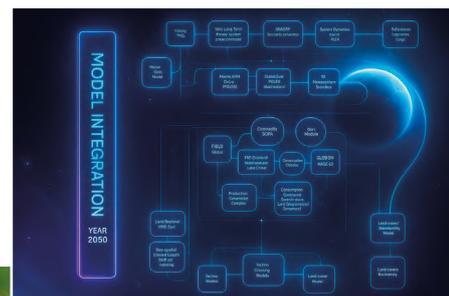
Finance

This theme was bolstered by two postdocs, Lily Xu and Youngho Kim. Research focused on the design and evaluation of nature markets, including conservation auctions and England’s Biodiversity Net Gain (BNG) policy.

We explored AI’s role in recovery decision-making and engaged government on planning reform and BNG futures. A Defra workshop on blended finance is among several events held this year.

Key highlights:

- A published review on geospatial data and nature-related financial risks
- Collaboration with Stockholm Resilience Centre on spatial risk tools for central banks
- Inventory of sector-specific risk-mitigation actions via CGFI
- Contributions to the World Economic Forum’s Global Future Council on Natural Capital and its upcoming Finance Solutions for Nature report
- A two-year impact translation programme launched at the Rockefeller Foundation Bellagio Centre.



Centre strategic goals

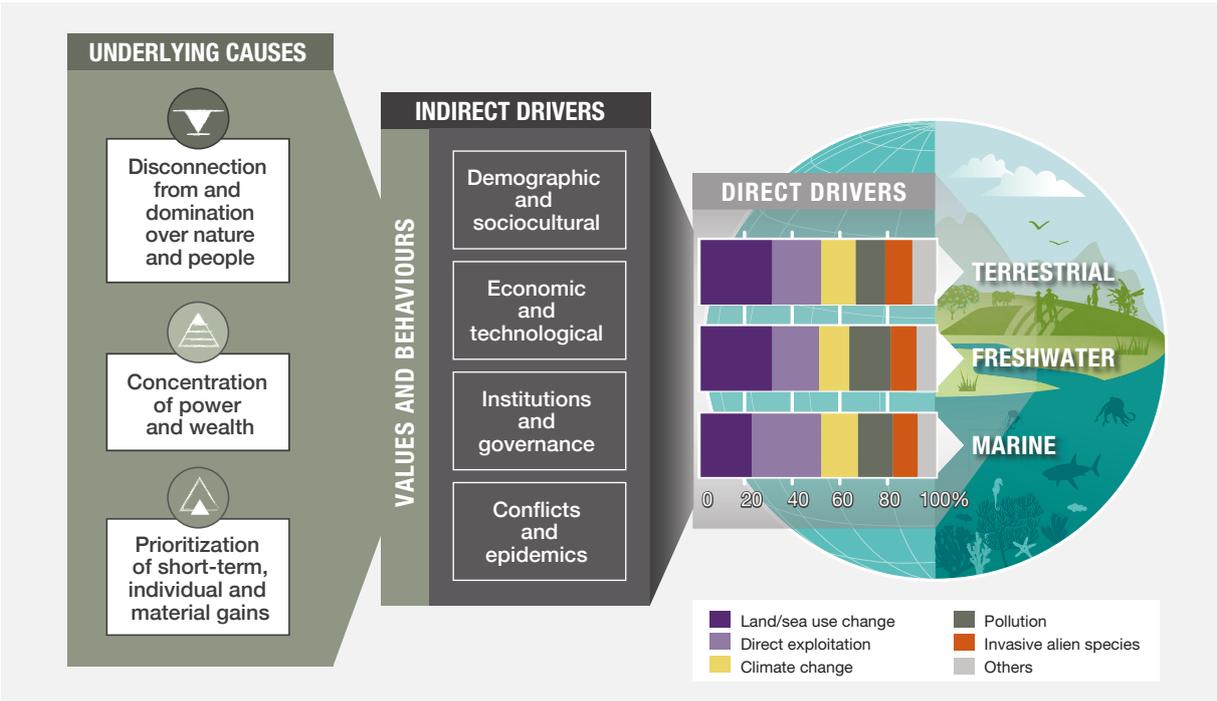
Goal 1: Understand the societal, biophysical, policy, and systemic factors that enable or challenge nature recovery

- We are engaging with IPBES to advance approaches transformative change
- We broaden our partnerships with the Humanities and others to look at the role of culture and behaviour change
- We strengthen our relationship with policymakers year on year to understand the political dynamics behind our nature restoration efforts

Goal 2: Collaborate with partners in case study landscapes to test and enhance frameworks, technologies, and tools for effective, inclusive, scalable nature recovery

- We are embedded in landscape partnerships from Oxfordshire to Ghana, developing tools for equitable, lasting recovery.
- We collaborate with new partners like the Wildlife Trust to assess opportunities for testing new approaches.
- Our place-based approach has led to some amazing interdisciplinary collaboration such as in Ghana where ecology, technology, society and finance combine over the role of the changing cocoa landscapes and the need for food security.

Figure: Source - [IPBES, 2024](#).



Goal 3: Establish an inclusive nature recovery community at Oxford, drawing on its intellectual capital and convening power

- Our vibrant and growing community – from DPhil students to practitioners – drives this mission. Regular seminars, peer-learning, and fellowships help build connections and leadership capacity.
- This community extends beyond Oxford, with early-career researchers and practitioners joining us from across the UK and internationally through fellowships, partnerships, and events.
- The Centre becomes a place to convene policy, practitioners and the public on a range of topics where respectful debate and challenges are warmly welcomed in a safe environment
- Many of our researchers are now stepping into leadership roles across academia, policy, and practice. The Centre is not only generating knowledge – it is shaping the next generation of leaders for a more sustainable future.

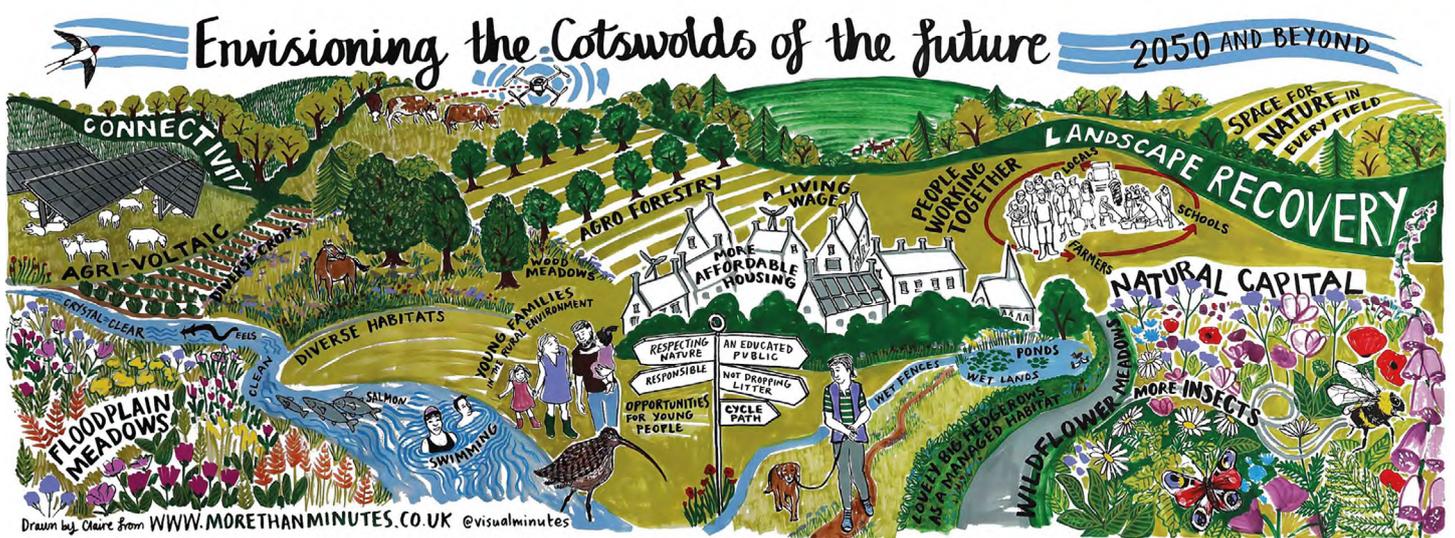
Highlights

Highlighted events

- Digital Dimensions of Nature Recovery (Nov 2024) – over 200 attendees from research, policy, and practice
- Nature, Farming & Food symposium (upcoming) – with TABLE and British Ecological Society
- Additional events and achievements since June 2024 – a growing list

Knowledge exchange highlights

- 2 interdisciplinary responses to policy consultations
- 2 cross-sector workshops for policy makers
- Roll-out of internal systems for tracking knowledge exchange data



Budget narrative

We continued to invest in people and place-based research throughout Year 3, cultivating a dynamic and collaborative culture. Our finance administrator added rigour to expense tracking and grant funding systems to improve overall financial control.

Thanks to the Trust's consistent support and our strong financial management, we're adopting a more flexible funding model in Year 4. This enables us to pursue cross-cutting strategic initiatives, respond rapidly to new opportunities, and foster innovation. It also helps transition researchers onto independent funding, ensuring we retain talent while remaining agile.

The Trust's investment continues to deliver long-term impact, value for money, and a legacy of leadership in nature recovery

Co-funding secured

We believe our success in securing regular and significant co-funding will be a key factor in our long-term sustainability strategy which we will showcase in Year 5.

Funding amount	Source
£395,267.64	British Academy Postdoctoral Fellowship A three-year fellowship to research nocturnal urban wildlife, extending our work on urban rewilding to the 'nightscape'
£39,000.00	Social Sciences and Humanities Research Council Insight Development Grant To fund research into urban ecological rehabilitation in Toronto as part of our work on urban rewilding. The grant will support a research assistant in Canada and several field visits from the UK to Canada
£149,998.00	2025 British Academy Evidence Informed Policy-making: 'Strengthening Evidence-use for Equitable Climate Resilient Coffee Policies (STEEP)'
£152,464.00	2025 ESRC Collaborative DPhil Studentship: Navigating nature recovery landscapes: towards equitable and effective outcomes for planet and people (PI).
£246,658.00	NERC Agile Initiative How can we deliver effective and equitable place-based environmental governance? Grant Ref: NERC grant reference number
£5,000.00	Catalysing political ecology in graduate training Kwame Nkrumah University of Science and Technology, Ghana
£50,092.56	WWF Funding Piloting of the NATURE Impacts project for a 12 month Research assistant role and associated expenses
£60,000.00	Circular Bioeconomy Co-funding for a Postdoctorate in rethinking nature finance
£29,000.00	Collaboration with University of Victoria Canadian Social Science and Humanities Research Council (SSHRC) for our work in Ghana

Funding amount	Source
£41,000.00	John Fell Funding Anya Lindstrom Battle's work on volatile organic compounds for the health theme
£24,507.00	Martha Crockatt OPEN Fellowship Access to green space and mental health interventions with Plymouth Council
£19,974.00	Caitlin Hafferty OPEN Fellowship How does risk and uncertainty shape policy on high-integrity carbon and nature markets in the UK?
£31,436.00	Samira Barzin For work on CCG project
£12,000	Additional contribution from Natural State for Kenya Landscape work
£375,000	Funding for 2 x Nature Recovery Dphil positions secured by Professor Yadvinder Malhi
£50,000	NbSI funding via Agile for Alison Smith
£53,987	Multifunctional Landscapes in Scotland
£1,735,384.20	Total year 3 funding secured

Cumulative total of co-funding secured over years 1-3 of the Centre: £3,406,184.20.



“ The support and flexibility the Leverhulme Centre for Nature Recovery offers has been transformational in my career journey. The LCNR community has been instrumental in the successful development of grants to expand work on questions of governance and equity.”

Mark Hirons, Research Fellow and Senior Researcher in Society Theme

Journal articles

A menu of standards for green infrastructure in England: effective and equitable or a race to the bottom?

Grace M; Smith A; Mell I; Houghton J; Neal P | 06/01/2025. *Frontiers in Environmental Science*. doi: [10.3389/fenvs.2024.1456519](https://doi.org/10.3389/fenvs.2024.1456519)

A multi-criteria evaluation framework for assessing green space interventions through a healthy urban planning approach

Huerta CM; Zhang W; Nurse A; Clemens T | *Cities & Health*. doi: [10.1080/23748834.2024.2442796](https://doi.org/10.1080/23748834.2024.2442796)

A shifting baseline theory of debates over potential lynx and wolf reintroductions to Scotland

Whitehead T; Hare D | 22/04/2025. *Ambio*. doi: [10.1007/s13280-025-02186-w](https://doi.org/10.1007/s13280-025-02186-w)

A whole-stand model for estimating the productivity of uneven-aged temperate pine-oak forests in Mexico

Nava-Miranda MG; Álvarez-González JG; Corral-Rivas JJ; Vega-Nieva DJ; Briseño-Reyes J; Aguirre-Gutiérrez J; von Gadow K | 10/04/2025. *Sustainability*. doi: [10.3390/su17083393](https://doi.org/10.3390/su17083393)

Advancing nature-based solutions through enhanced soil health monitoring in the United Kingdom

Giuliani L; Warner E; Campbell G; Lynch J; Smith A; Smith P | 08/12/2024. *Soil Use and Management*. doi: [10.1111/sum.13164](https://doi.org/10.1111/sum.13164)

Alternative life cycle impact assessment methods for biodiversity footprinting could motivate different strategic priorities: A case study for a Dutch dairy multinational

Martínez-Ramón V; Bromwich T; Modernel P; Poore J; Bull JW | 15/12/2024. *Business Strategy and the Environment*. doi: [10.1002/bse.4072](https://doi.org/10.1002/bse.4072)

An integrated approach to above- and below-ground ecological monitoring for nature-based solutions

Warner E; Giuliani LM; Campbell GA; Smith P; Seddon N; Seddon D; Smith A | 14/05/2025. *Ecological Solutions and Evidence*. doi: [10.1002/2688-8319.70043](https://doi.org/10.1002/2688-8319.70043)

Assessing costs and cost-effectiveness across the mitigation hierarchy: An example considering the reduction of bird mortality at power lines

White TB; Serratosa J; Allinson T; Jones VR; Petrovan SO; Jobson BR; Jones KR; Sutherland WJ | 01/08/2024. *Biological Conservation*. doi: [10.1016/j.biocon.2024.110651](https://doi.org/10.1016/j.biocon.2024.110651)

Biodiversity credits: an overview of the current state, future opportunities and potential pitfalls

Zu Ermgassen S; White T; Bull J | *Business Strategy and the Environment*.

Buying and selling forest carbon as a commodity is dangerous if it trumps other environmental and social uses

McDermott C; Kumeh Mensah E; Mark H | 03/06/2024. *The Conversation*.

Emotions shape attitudes towards wolf conservation management in the Italian Alps

Trebo S; Cary E; Wartmann FM | 18/12/2024. *European Journal of Wildlife Research*. doi: [10.1007/s10344-024-01885-1](https://doi.org/10.1007/s10344-024-01885-1)

Engagement in the digital age: Understanding “what works” for participatory technologies in environmental decision-making.

Hafferty C; Reed MS; Brockett BFT; Orford S; Berry R; Short C; Davis J | 18/06/2024. *Journal of environmental management*. doi: [10.1016/j.jenvman.2024.121365](https://doi.org/10.1016/j.jenvman.2024.121365)

Enhanced woody biomass production in a mature temperate forest under elevated CO₂

Norby RJ; Loader NJ; Mayoral C; Ullah S; Curioni G; Smith AR; Reay MK; van Wijngaarden K; Amjad MS; Brettler D | 12/08/2024. *Nature Climate Change*. doi: [10.1038/s41558-024-02090-3](https://doi.org/10.1038/s41558-024-02090-3)

Environmentality and the making of compliant subjects: Insights from collaborative forest management innovations in Southwestern Ghana

Sackey R; Brobbey LK; Kumeh EM; Ameyaw JAS | 01/04/2025. *Forest Policy and Economics*. doi: [10.1016/j.forpol.2025.103475](https://doi.org/10.1016/j.forpol.2025.103475)

Equity in unilateral value chain policies: A monitoring framework for the EUDR and beyond

McDermott CL; Addoah T; Agyarko-Kwarteng T; Asare R; Assanvo A; Lima MB; Bellfield H; Berlan A; Carodenuto S; Gardner T | 01/05/2025. *Forest Policy and Economics*. doi: [10.1016/j.forpol.2025.103469](https://doi.org/10.1016/j.forpol.2025.103469)

Exploring a unified definition of ecological complexity towards restoration

Wu H; Soleiman J; Bolam J; Boyle JS | 01/06/2025. *Total Environment Advances*. doi: [10.1016/j.teadva.2025.200125](https://doi.org/10.1016/j.teadva.2025.200125)

Exploring gaps, biases, and research priorities in the evidence for reptile conservation actions

Speight O; Morgan WH; White TB; Sainsbury KA; Bouskila A; Rotem G; Smith RK; Sutherland WJ; Watson MJ; Christie AP | *Conservation Biology*. doi: [10.1111/cobi.70073](https://doi.org/10.1111/cobi.70073)

Five lessons for avoiding failure when scaling in conservation.

Pienkowski T; Jagadish A; Battista W; Blaise GC; Christie AP; Clark M; Emenyu AP; Joglekar A; Nielsen KS; Powell T | 01/10/2024. *Nature Ecology & Evolution*. doi: [10.1038/s41559-024-02507-4](https://doi.org/10.1038/s41559-024-02507-4)

Graph-theoretic modeling reveals connectivity hotspots for herbivorous reef fishes in a restored tropical island system

Peterson EA; Stuart CE; Pittman SJ; Benkwitt CE; Graham NAJ; Malhi Y; Salmon T; Stoll B; Purkis SJ; Wedding LM | 03/08/2024. *Landscape Ecology*. doi: [10.1007/s10980-024-01936-7](https://doi.org/10.1007/s10980-024-01936-7)

Harnessing nature-based solutions for economic recovery: A systematic review

Chausson A; Smith A; Reger RZ-Z; O'Callaghan B; Mori Clement Y; Zapata F; Seddon N | 28/10/2024. *PLOS Climate*. doi: [10.1371/journal.pclm.0000281](https://doi.org/10.1371/journal.pclm.0000281)

How the concept “regenerative good growth” could help increase public and policy engagement and speed transitions to net zero and nature recovery

Pretty J; Garrity D; Badola H; Barrett M; Butler Flora C; Cameron C; Grist N; Hepburn L; Hilburn H; Isham A | *Sustainability*. doi: [10.3390/su17030849](https://doi.org/10.3390/su17030849)

Just nature recovery: a framework for centring multispecies and multi-dimensional justice in land management

Stanley T; Hirons M; Turnbull J; Lorimer J; Kumeh E; Hafferty C; Anderson L; McDermott C | 16/01/2025. *Environmental Science & Policy*. doi: [10.1016/j.envsci.2025.103992](https://doi.org/10.1016/j.envsci.2025.103992)

Lessons lost: Lack of requirements for post-project evaluation and reporting is hindering evidence-based conservation

Caruana A; Muir M; White TB; Jones JPG | 01/12/2024. *Conservation Science and Practice*. doi: [10.1111/csp2.13260](https://doi.org/10.1111/csp2.13260)

Mapping the extent and exploring the drivers of cocoa agroforestry in Nigeria, insights into trends for climate change adaptation

Koralewicz A; Vlcek J; Oliveras-Menor I; Hirons M; Owen O | 03/02/2025. *Agroforestry Systems*. doi: [10.1007/s10457-024-01126-z](https://doi.org/10.1007/s10457-024-01126-z)

Messy natures: the political aesthetics of nature recovery

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Nature-based credit markets at a crossroads

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Now is the time for conservationists to stand up for social justice

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(Re)wilding London: fabric, politics, and aesthetics

Turnbull J; Fry T; Lorimer J | 10/02/2025. *Transactions of the Institute of British Geographers*. doi: [10.1111/tran.12748](https://doi.org/10.1111/tran.12748)

Ten facts from critical and interpretive social sciences for environmental research

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The “nature-positive” journey for business: a conceptual research agenda to guide contributions to societal biodiversity goals

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The current state, opportunities and challenges for upscaling private investment in biodiversity in Europe.

Zu Ermgassen SOSEZ; Hawkins I; Lundhede T; Liu Q; Thorsen BJ; Bull JW | 05/02/2025. *Nature ecology & evolution*. doi: [10.1038/s41559-024-02632-0](https://doi.org/10.1038/s41559-024-02632-0)

The distribution and drivers of tree cover in savannas and forests across India

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Leverhulme Centre for Nature Recovery



Leverhulme Centre
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About LCNR

The ongoing loss and degradation of nature is one of the greatest challenges of our time. To halt and reverse this global biodiversity decline, the Leverhulme Centre for Nature Recovery was created as a hub for innovative research on nature recovery nationally and worldwide. It brings together experts from disciplines across the University of Oxford, including geography, ecology, social science, finance, economics, psychiatry, anthropology, artificial intelligence, statistics and earth observation. Our team collaborates on a range of projects, working with national and international partners.

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