

Focus article

Nature Recovery Now: How the new UK Government needs to act to address the biodiversity crisis with five key priorities

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Abstract

Biodiversity loss is a critical global concern with profound implications for ecosystems and human wellbeing. As one of the most nature-depleted countries in the world, the UK must act to secure a future for both people and nature. This paper outlines five priority areas where the UK government should focus to ensure nature restoration is central to political ambition:

1. Establish a cross-party and cross-administration assembly on nature recovery.
2. Commit to legally binding and meaningful targets for nature recovery.
3. Significantly increase funding for nature recovery.
4. Develop a land and water use framework that strategically balances management priorities across the UK.
5. Integrate nature recovery into all policies and commitments across all sectors.
6. We emphasise the importance of engaging with local actors to facilitate transformative change in these key areas through in-depth and meaningful engagement.

Introduction

Biodiversity loss is a critical global concern with profound implications for ecosystems and human wellbeing (Cardinale et al., 2012; IPBES, 2019). Research shows that species are becoming extinct at rates significantly higher than during previous catastrophic historical events (Ceballos et al., 2017; Desalle & Amato, 2017; Kolbert, 2014). The worldwide decline in biodiversity is occurring despite over 50 years of diverse government efforts to combat biodiversity loss (Xu et al., 2021).

The recently adopted Kunming-Montreal Global Biodiversity Framework (CBD, 2022) codifies the commitment of over 190 countries to protect 30 per cent of terrestrial land by 2030 (hereon, 30 by 30) and marks one of the most ambitious environmental agreements of the 21st century (Hughes & Grumbine, 2023). However, international agreements to address transnational public issues are ineffective without national compliance (Ferraro & Failler, 2024). Achieving 30 by 30, reducing extinction risk, and reversing biodiversity decline will require nature recovery efforts worldwide on an unprecedented scale. As Díaz et al. (2019, p.7) argue, this requires transformative change that encompasses a ‘fundamental, society-wide reorganisation across technological, economic and social factors and structures, including paradigms, goals and values.’

The UK Government is in a pivotal position where new and emerging legislation and policies will have significant implications for addressing the biodiversity crisis. As one of the most nature-depleted countries in the world (Burns et al., 2023), the UK needs to act swiftly and decisively to secure a future for both people and nature. This requires placing nature restoration at the centre of political ambition and radically refocusing efforts on sustainable practices. In this paper, we set out five priority areas where government should act to support nature’s recovery:

- **Priority 1:** Establish a cross-party and cross-administration assembly on nature recovery.
- **Priority 2:** Commit to a legally binding meaningful target for nature recovery.
- **Priority 3:** Significantly increase funding for nature recovery.
- **Priority 4:** Develop a land and water use framework that strategically balances management priorities across the UK.
- **Priority 5:** Place nature recovery at the centre of all policies and commitments across all sectors.

These priorities should be seen as interconnected. They should also be tackled in combination with additional efforts to address the climate crisis that are beyond the scope of this paper. We focus on nature recovery due to the concerning lack of engagement with this critical topic within the Labour Party Manifesto 2024: ‘Our plan to change Britain’.

What is happening now?

In the UK, the urgency to address biodiversity loss has reached a critical point, requiring substantive and immediate government action. We have lost 19 million pairs of native breeding birds since 1966 (Burns et al., 2020) 97 per cent of wildflower meadows in England and Wales have disappeared since the 1930s (Natural England, 2011) and a quarter of UK mammals are now at risk of extinction (IUCN, 2023). These declines are not just losses of natural heritage but are critical to society’s future. Functioning ecosystems and biodiversity underpin ecosystem services that are vital for human wellbeing, including pollination of crops, soil fertility, water purification, and climate regulation (MEA, 2005; Dickie et al., 2014). Nature is essential for human existence and good quality of life (IPBES, 2019). Furthermore, there is increasing understanding of the interconnection between climate change and biodiversity loss (Pörtner et al., 2023). A warming planet results in biodiversity decline; however, biodiversity-based solutions can significantly contribute to both climate change mitigation and adaptation (ibid).

The previous Conservative Government pledged to ‘leave the environment in a better state’ than it inherited (Defra, 2018), but recent analysis reveals that this did not happen. Promised actions have not translated into effective nature recovery, as evidenced by the

UK's failure to be on track to meet both national and international targets. Recent data reveal that only a marginal increase in protected land and marine areas has been achieved, with just 3.22 per cent of landscapes and eight per cent of marine habitats effectively protected (Wildlife and Countryside Link, 2022). Without immediate and substantial policy changes, the prospects of meeting the 30 by 30 target are rapidly diminishing. Furthermore, only four out of 40 environmental targets in the Environment Act (2021) for England are likely to be achieved (Office for Environmental Protection, 2024). With just over five years until 2030, when the Government is legally obliged under the Environment Act (2021) to halt species decline, current trends indicate movement in the opposite direction (Wildlife and Countryside Link, 2022).

Even more concerning is the argument that the UK's unmet nature targets are inherently inadequate and lacking in political ambition. For instance, the Environment Act (2021) stipulates two key objectives for species abundance: halting decline by 2030 and increasing species abundance by at least ten per cent by 2042, using 2030 as the baseline. Given the current declining trend, halting the decline by 2030 and then increasing species abundance by ten per cent by 2042 would essentially maintain the biodiversity index of abundance at approximately the same level as in 2022 (Bane et al., 2023). Arguably this is an example of institutional shifting baseline syndrome (Soga & Gatson, 2018) leading to an establishment and use of inappropriate targets in nature conservation. This approach risks normalising a lower standard of biodiversity, thus institutionalising a new, degraded baseline that could perpetuate the cycle of decline (Lovell et al., 2020).

There is also an argument that the public is ready for a change. Recent analysis suggests that most people in the UK believe that local governments, devolved administrations, and the UK Government are not making sufficient efforts to protect and enhance the natural environment (Hall, 2021). A poll commissioned by The Wildlife Trusts revealed that most of the UK public believe that all major political parties are inadequately addressing the nature crisis (The Wildlife Trusts, 2024). The poll highlighted that the public think the main parties are doing poorly on river pollution (78 per cent), nature loss (71 per cent), climate change (69 per cent), ensuring communities can benefit from nature (65 per cent), and supporting sustainable food production (63 per cent). Hence, there is a clear need for the Government to prioritise commitments to biodiversity to respond to these concerns.

What key aspects need to change?

Priority 1: Establish a cross party and cross administration assembly on nature recovery

Despite varying policy trajectories within the United Kingdom (Cary & Wartmann, 2024), there has been a prevailing trend towards gradually disengaging from the environmental regulations established by the European Union (Gravey & Jordan, 2023). The dismantling of European environmental legislation is a significant concern in relation to the future of biodiversity in the UK. The Environment Act (2021) which emerged because of Brexit, has been criticised as flawed, problematic and limited in scope (see also Lee, 2022) and particularly vulnerable to changing political priorities (Fisher, 2020). It applies to England, as Scotland and Wales chose not to participate in certain areas, so its geographical reach is significantly restricted. This decision was influenced by differing environmental ambitions and priorities in the nations of the UK (Gravey & Jordan, 2023).

This highlights that domestic nature recovery policies within the UK are vulnerable to changes in government and shifts in political priorities which could influence legislation as well as funding levels, enforcement mechanisms, and regulatory focus. While each

nation faces different challenges, there is a need to work towards a coherent agenda across the UK. Each country must collectively integrate policies and commit to collaborative efforts across all statutory nature conservation bodies in terms of strategy, action and monitoring. Additionally, all UK Government departments should be mandated to coordinate their actions around nature, ensuring that nature recovery is a fundamental aspect of their agenda, by ensuring lead agencies are connected. This requires working towards a comprehensive, whole-government strategy for nature recovery. A UK-wide unified assembly working across party lines would ensure regional consistency and counter the current fragmented and inconsistent approach, with its risk of future uncertainty that hinders long-term planning. This would allow all parts of the UK to contribute to and benefit from biodiversity recovery, creating a cohesive and resilient environmental framework. Further work would be needed on the structure and remit of the assembly, but this could involve a broad range of stakeholders, including central and devolved governments, local authorities, political parties, experts, the private sector, and civil society. Central government would provide the legislative framework and resources, while devolved administrations would ensure that regional needs are addressed within a cohesive national strategy. Local authorities would play a key role in implementing biodiversity initiatives on the ground, and experts would ensure policies are based on sound science. Cross-party collaboration would help create long-term, non-partisan policies, while NGOs, landowners, and industry would drive innovation and public support.

Priority 2: Commit to a legally binding meaningful target for nature recovery

The promise of 30 by 30 is backed by a legal duty to stop the decline of species via the Environment Act (2021). However, this Act only applies to England, and the associated 25-year Environment Plan, which aims to provide mechanisms for reversing biodiversity loss, is not legally binding. The critical Kunming-Montreal Global Biodiversity Framework target is thus not enshrined in UK law, leading to inconsistent implementation of the measures needed to meet it, both domestically and in overseas territories. This has led to heightened concern both within and outside academia.¹

In contrast, on June 17, 2024, the European Union passed a Nature Restoration Law applicable to all EU member states (European Commission, 2024). This combines an overarching long-term restoration objective in the EU's land and sea areas with binding restoration targets. The regulatory framework covers diverse ecosystems, including terrestrial, coastal, freshwater, forested, agricultural, and urban landscapes, as well as marine habitats like seagrass and coral beds. Member states are directed to prioritise the restoration of Natura 2000 sites through targeted actions until 2030. Through this legislation, steps will be taken to restore habitats identified as being in poor condition, with a goal of achieving at least 30 per cent improvement by 2030, escalating to 60 per cent by 2040, and culminating in 90 per cent restoration by 2050.

Comparing the EU Nature Restoration Law to the Environment Act (2021) highlights that the UK is behind in its international commitment to nature recovery. The new UK Government should prioritise establishing this legal commitment. The ambition should extend beyond protecting 30 per cent of land by 2030 and follow a stepped, incremental trajectory as outlined above. As highlighted by Leclère et al. (2020), achieving these targets requires setting aside significant areas for nature and will require re-thinking our network of designated sites to prioritise nature recovery.

Priority 3: Significantly increase funding for nature recovery

Research shows that there is a significant global biodiversity conservation financing gap of approximately \$700 billion per year (Karolyi & Tobin-de la Puente, 2023). The finance gap to meet the UK's nature related outcomes has been estimated to be at least between £44 billion and £97 billion over the next ten years (Green Finance Institute, 2021).

The UK Government's investment in biodiversity has declined both in real terms and as a percentage of GDP since 2008, placing it well below similar economically developed nations (zu Ermgassen et al., 2021). Despite the UK's economy growing by approximately £250 billion during this period, its public funding for biodiversity remains inadequate by global standards (ibid). The expected gap in funding for nature recovery across the Devolved Administrations from 2022 to 2032 reveals a stark disparity in funding needs, particularly concerning England, Scotland, and overseas territories (Green Finance Institute, 2021). This not only highlights the government's failure to effectively address biodiversity decline but also a broader inadequacy in national responses to global biodiversity goals.

Funding for nature recovery in the UK is increasingly complex because of new and emerging mechanisms which some argue can help plug this gap, such as Biodiversity Net Gain markets, carbon offsetting, and payments for ecosystem services. The former government set a target to raise at least £500 million in private finance to support nature's recovery every year by 2027 in England, rising to more than £1 billion by 2030 (HM Government, 2023). Currently, the amount provided by private finance is significantly lower, with specific figures varying by year and project (ibid). These mixed modes of financing nature recovery represent a broad shift away from primarily state-based funding, creating complex governance challenges in terms of how schemes are designed, distributed, enacted, and monitored, with significant implications for the future of biodiversity. There has been substantial critique of the scope of such schemes to address these gaps (Apostolopoulou et al., 2021), so they require increased scrutiny. We suggest that increasing resources should be provided for nature conservation in terms of delivery, monitoring and compliance, and these should be set out clearly within the government's financial planning.

Priority 4: Develop a land and water use framework that strategically balances management priorities across the UK

Alongside a clear legally binding target for nature recovery underpinned by 30 by 30 and an increase in economic support for nature, deciding which land is allocated for nature protection presents significant challenges and needs to be prioritised. This is increasingly important as demand for land to produce food, feed and energy is increasing (Tilman et al., 2017; Newbold et al., 2015) putting at risk the many ecosystem services upon which people depend (e.g., Chaplin-Kramer et al., 2019).

Currently the UK uses more than 70 per cent of its land for agriculture, but studies have suggested that significant land use change is required to address the climate and biodiversity crises. A paper by the Committee on Climate Change (2020) suggested that approximately one-fifth of agricultural land should be released by 2050 to allow space to prioritise uses that reduce emissions and sequester carbon. Other studies have highlighted that the amount of land needed for agriculture could be reduced significantly while still producing sufficient food, but this requires rethinking how, where and what we farm. WWF (2022), for instance, have claimed that 40 per cent of the UK's most productive agricultural land is used to grow food for farm animals instead of people. They

call for a rethink of the 'inherently inefficient' practice of feeding farm animals foods that humans can eat, which they claim is fuelling the climate and nature crises (ibid).

Further concerns relate to planning and the built environment. In the King's Speech (HM Government, 2024) there was a clear commitment to 'get Britain building, including through planning reform ... to accelerate the delivery of high quality infrastructure and housing'. However, there has been no clear discussion of how this will be reconciled with declining biodiversity. There has been significant scrutiny of measures to address biodiversity within the planning system (see for instance, Scott & Kirby, (2024) that we return to in the next section. An important example is the Biodiversity Net Gain (BNG) policy. This mandates that new developments that require planning permission and, from 2025, Nationally Significant Infrastructure Projects (NSIPs), must deliver a ten per cent gain in biodiversity using a simple composite indicator, the 'biodiversity metric' (Panks et al., 2022). While this has been hailed as being the 'most wide-ranging jurisdictional policy to date' (Rampling et al., 2024, p.3) for biodiversity enhancement, studies have highlighted its limited potential (Edwards-Jones et al., 2024). Researchers have expressed concern that habitat creation is predominantly occurring on development sites and argue that more substantial biodiversity gains could be achieved by mandating habitat creation in areas of strategic conservation significance across landscapes (Wentworth, 2024). There are also concerns that using BNG without additional species focused conservation is likely to be limited for key species of birds and butterflies (Marshall et al., 2024). Furthermore, studies have highlighted significant gaps in the resourcing and governance of BNG which will substantially undermine its effectiveness (Rampling et al., 2024).

The above raises important questions about how we balance biodiversity protection against other pressing needs related to food, the built environment, recreation, water quality, carbon and other ecosystem services. The current approach lacks any holistic and strategic spatial policy, especially in England. For instance, a study by The Royal Society (2023) calculated that the UK would need approximately 1.4 million hectares of additional land – an area the size of Northern Ireland – to meet all the previous policy targets related to land use by 2030. This rises to 4.4 million hectares by 2050 (ibid). This was based on policy commitments towards woodland cover, peatland restoration, biofuel, nature designations and agriculture, and assumes that agricultural productivity, diets and food waste remain static. This points to a clear need to design future targets that are not devised in silos and take a spatial approach building on the concept of multifunctionality, where the diverse benefits of different land management practices are accounted for.

The previous government committed to publishing such a framework for England by the end of 2023, but it has not yet appeared. The new UK Government should prioritise developing this framework and ensure it aligns with developing work in Scotland, Wales and Northern Ireland as well as the work in England on Local Nature Recovery Strategies and Nature Recovery Networks. If properly resourced in terms of implementation, delivery, and monitoring this could offer a step change towards a more holistic and interconnected approach that is integral to nature's recovery. We suggest embedding the principles of the Lawton Review (2010) (i.e. Bigger, Better, More and Joined Up²) as well as the concept of multifunctionality (Royal Society, 2023) within such a framework and ensuring it has sufficient weight within planning decisions. This could be tackled within existing work on reforms to the planning system. This could link to existing work to strengthen strategic planning in the current review of the [National Planning Policy Framework](#).

This also links directly to the points raised previously regarding a legally binding target for nature recovery. There are a range of land designations across the UK that could contribute to meeting 30 by 30 but many of these areas do not currently contribute to

this target (Wildlife and Countryside Link, 2022) as this is not their primary purpose. According to a recent review, Areas of Outstanding Natural Beauty, National Nature Reserves, National Parks, and UNESCO Biosphere and World Heritage Sites no longer qualify as protected areas for nature conservation based on IUCN area-based measures because of the state of wildlife in these areas (IUCN National Committee UK Protected Areas Working Group, 2023).

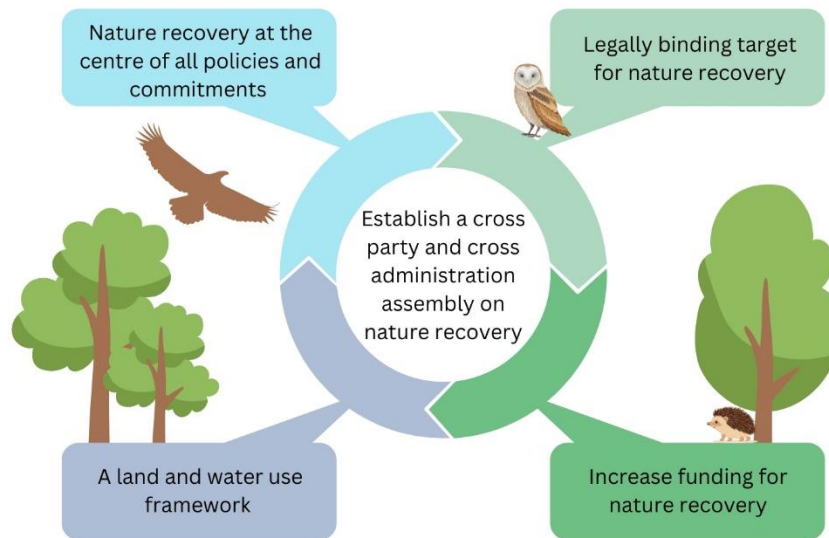
With reform, better financing, monitoring and management, existing designations might meet the conditions of long-term protection and effective management for nature's recovery. Novel designations could put the UK at the forefront of advances in ecological restoration, including strategically establishing areas for experimental landscape scale management or rewilding. This does not necessarily mean setting these landscapes apart from other uses such as farming or forestry (Glentworth et al., 2024), but thinking more creatively about how they function and aspiring to rebuild more complex ecosystems within them (Perino et al., 2019; Bullock et al., 2022). Developing these areas could directly help with advancing our approach to nature recovery:

Nature recovery innovation areas are required, among other things, to advance: the science of rewilding and restoration ecology; develop and test policy and governance mechanisms; develop a new generation of technology-empowered monitoring and assessment techniques; open new nature-based enterprise opportunities; and promote public interest and involvement in ecological restoration (Jepson, 2022, p.1410).

Priority 5: Place nature recovery at the centre of all policies and commitments across all sectors

Academic literature highlights that biodiversity issues often suffer from a lack of sustained and coherent political action because they tend to be overshadowed by more supposedly immediate political and economic concerns (IPBES, 2019, Willemsen et al., 2020; Sandström et al., 2023). This sidelining of global biodiversity within governance poses a significant barrier to long-term nature recovery. Effective biodiversity governance requires integration into all policy areas, not just isolated environmental policies (Sandström et al., 2023). Therefore, a systematic and continuous approach across policymaking is necessary. There is an increasing recognition that, although the global climate and biodiversity crises are fundamentally connected, they have been primarily addressed independently and a more integrated national and global approach is essential (Pettorelli et al., 2021). All the high-level priorities raised above, coupled with putting nature recovery at the centre of political aspirations, will help firmly establish this connection between the climate and biodiversity crises (Figure 1).

Figure 1: Diagram showing the linked high-level priorities for the UK Government to act on for nature recovery



As such, we argue that the new UK Government should elevate biodiversity issues to a principal place in the political agenda to ensure they receive continuous attention and action. We are already seeing this happen in sectors such as energy and transport, where robust governance structures and ambitious targets have been created to accelerate change. Establishing an equivalent 'Great British Nature' with the resourcing and legislative power to drive real change could have similarly transformative potential and links directly to the idea of an assembly for UK nature. Biodiversity considerations need to be incorporated into all relevant policy areas, including agriculture, urban planning, and economic development. Policymakers should ensure policies across different sectors do not conflict but instead support biodiversity goals, creating a cohesive and effective governance framework.

There are examples from across the world of such government commitments. Costa Rica's Biodiversity Law, enacted in 1998, is a globally recognised framework that integrates conservation, sustainable use, and equitable benefit-sharing of biodiversity. It established the National System of Conservation Areas (SINAC) for coordinated biodiversity management and actively involves local communities and indigenous peoples in decision-making. The law promotes sustainable economic development through innovative financing mechanisms like payments for ecosystem services (PES). The programme, which pays landowners to maintain forest cover, has contributed to significant increases in forested areas and biodiversity over several decades (Pagiola, 2008). This initiative highlights the importance of stable, long-term funding and consistent policy support in achieving environmental goals. New Zealand's comprehensive biodiversity strategy demonstrates the value of integrating indigenous knowledge and participatory governance in conservation efforts. Its approach includes legally binding targets and involves local communities in decision-making, ensuring that biodiversity policies are resilient to political changes and have broad public support (Department of Conservation, 2020).

The five high level priorities for nature recovery should be considered as urgent areas for focusing government efforts (Figure 1). However, we argue that there must be deep and meaningful engagement with a wide range of stakeholders to co-produce transformative solutions that recognise and use existing expertise and cross-sector work to support nature's recovery. For instance, developing a credible Land and Water Use framework will require positive and meaningful engagement with multiple actors across multiple scales. Here at Sheffield Hallam University, we have a multidisciplinary team of ecologists, policy analysts, land use planners and social scientists working with regional stakeholders and governance bodies to identify the opportunities and challenges faced by farmers and land managers. In recognition of the complex challenges, we seek to co-produce knowledge that bridges the gap between policy and practice. The aim of this research is to facilitate positive engagement with the available funding in a way that benefits stakeholders, while also listening to their experiences and taking these messages back to funders and policymakers to help them improve access and uptake of available schemes and ensure good policy outcomes that support nature's recovery.

Given these complex challenges, we need to move away from seeing nature conservation as a low priority for the UK. The Labour Party Manifesto 2024: 'Our plan to change Britain' included very little detail on nature recovery and the five high level priorities we have outlined in this paper should be seen as a call for action.

Notes

1 A letter from over 180 UK scientists with expertise in biodiversity and conservation, including practitioners and government advisers, called for a cohesive approach within the UK. This letter was sent on 4 June to the environment leads of all the political parties contesting the election (including in the Devolved Administrations) and emphasised the importance of focusing on nature not just within the UK but also in its overseas territories.

2 'Bigger' refers to making existing sites for wildlife larger, 'Better' refers to improving the quality of these sites, 'More' refers to increase the number of wildlife sites and 'Joined Up' refers to improving their connectivity through the establishment of wildlife corridors.

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References

- Apostolopoulou, E., Chatzimentor, A., Maestre-Andrés, S., Requena-i-Mora, M., Pizarro, A., & Bormpoudakis, D. (2021). Reviewing 15 years of research on neoliberal conservation: Towards a decolonial, interdisciplinary, intersectional and community-engaged research agenda. *Geoforum*, *124*, 236-256.
- Bane, M. S., Cooke, R., Boyd, R. J., Brown, A., Burns, F., Henly, L., Vanderpump, J., & Isaac, N. J. (2023). An evidence-base for developing ambitious yet realistic national biodiversity targets. *Conservation Science and Practice*, *5*(2), e12862.
- Bullock, J. M., Fuentes-Montemayor, E., McCarthy, B., Park, K., Hails, R. S., Woodcock, B. A., Watts, K., Corstanje, R., & Harris, J. (2022). Future restoration should enhance ecological complexity and emergent properties at multiple scales. *Ecography*, *2022*(4).

- Burns, F., Eaton, M. A., Balmer, D. E., Banks, A., Caldow, R., Donelan, J. L., Douse, A., Duigan, C., Foster, S., Frost, T., Grice, P. V., Hall, C., Hanmer, H. J., Harris, S. J., Johnstone, I., Lindley, P., McCulloch, N., Noble, D. G., Risely, K., ... & Wotton, S. (2020, December). *State of the UK's birds 2020*. RSPB, BTO, WWT, DAERA, JNCC, NatureScot, NE and NRW.
- Burns, F., Mordue, S., al Fulaij, N., Boersch-Supan, P. H., Boswell, J., Boyd, R. J., Bradfer-Lawrence, T., de Ornellas, P., de Palma, A., de Zylva, P., Dennis, E. B., Foster, S., Gilbert, G., Halliwell, L., Hawkins, K., Haysom, K. A., Holland, M. M., Hughes, J., ... & Gregory, R. D. (2023). *State of Nature 2023*. The State of Nature Partnership. www.stateofnature.org.uk
- Cardinale, B. J., Duffy, J. E., Gonzalez, A., Hooper, D. U., Perrings, C., Venail, P., Narwani, A., Mace, G. M., Tilman, D., Wardle, D. A., Kinzig, A. P., Daily, G.C., Loreau, M., Grace, J. B., Larigauderie, A., Drivastava, D. S., & Naeem, S. (2012). Biodiversity loss and its impact on humanity. *Nature*, 486(7401), 59-67.
- Cary, E., & Wartmann, F. M. (2024). Rewilding in the British policy landscape. A qualitative analysis of policy documents related to rewilding. *Scottish Geographical Journal*, 1-26.
- CBD (2022). *Decision adopted by the conference of the parties to the convention on biological diversity 15/4*. Kunming-montreal global biodiversity framework. <https://www.cbd.int/doc/decisions/cop-15/cop-15-dec-04-en.pdf>
- Ceballos, G., Ehrlich, P. R., & Dirzo, R. (2017). Biological annihilation via the ongoing sixth mass extinction signaled by vertebrate population losses and declines. *Proceedings of the national academy of sciences*, 114(30), E6089-E6096.
- Chaplin-Kramer, R., Sharp, R. P., Weil, C., Bennett, E. M., Pascual, U., Arkema, K. K., Brauman, K. A., Bryant, B. P., Guerry, A. D., Haddad, N. M., Hamann, M., Hamel, P., Johnson, J. J., Mandle, L., Pereria, H. M., Polasky, S., Ruckelshaus, M., Shaw, M. R., Silver, J. M ... & Daily, G. C. (2019). Global modelling of nature's contributions to people. *Science*, 366(6462), 255-258.
- Committee on Climate Change (2020) *Land Use: Policies for a Net Zero UK*. <https://www.theccc.org.uk/wp-content/uploads/2020/01/Land-use-Policies-for-a-Net-Zero-UK.pdf>
- Defra (2018). *A Green Future: Our 25 Year Plan to Improve the Environment*. https://assets.publishing.service.gov.uk/media/65fd713d65ca2f00117da89e/C11.H_HM_Government_A_Green_Future_Our_25_Year_Plan_to_Improve_the_Environment.pdf
- Department of Conservation | Te Papa Atawhai. (2020). *Pūrongo-ā-tau: Annual report for the year ended 30 June 2020*. <https://www.doc.govt.nz/globalassets/documents/about-doc/annual-reports/annual-report-2020/annual-report-2020.pdf>
- Desalle, R., & Amato, G. (2017). Conservation genetics, precision conservation, and de-extinction. *Hastings Center Report*, 47, S18-S23.
- Díaz, S., Settele, J., Brondízio, E. S., Ngo, H. T., Agard, J., Arneth, A., Balvanera, P., Brauman, K. A., Butchart, S. H. M., Chan, K. M. A., Garibaldi, L. A., Ichii, K., Liu, J., Subramanian, S. M., Midgley, G. F., Miloslavich, P., Molnár, Z., Obura, D., Pfaff, A., ... & Zayas, C. N. (2019). Pervasive human-driven decline of life on Earth points to the need for transformative change. *Science*, 366(6471), eaax3100.
- Dickie, I., Cryle, P., & Maskell, L. (2014) *UK National Ecosystem Assessment Follow-on. Work Package Report 1: Developing the evidence base for a Natural Capital Asset Check: What characteristics should we understand in order to improve environmental appraisal and natural income accounts?* UNEP-WCMC, LWEC, UK.
- Edwards-Jones, A., Watson, S. C., Szostek, C. L., & Beaumont, N. J. (2024). Stakeholder insights into embedding marine net gain for offshore wind farm planning and delivery. *Environmental Challenges*, 14, 100814.

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- European Commission (2024). *Nature Restoration Law*. https://environment.ec.europa.eu/topics/nature-and-biodiversity/nature-restoration-law_en
- Ferraro, G., & Failler, P. (2024). Understanding the “Implementation Gap” to Improve Biodiversity Governance: An Interdisciplinary Literature Review. *Journal of Sustainability Research*, 6(2).
- Fisher, E. (2020). Executive Environmental Law. *The Modern Law Review*, 83(1), 163–189. <https://doi.org/10.1111/1468-2230.12456>
- Glentworth, J., Gilchrist, A., & Avery, R. (2024). The place for people in rewilding. *Conservation Biology*, e14318.
- Gravey, V., & Jordan, A. J. (2023). UK environmental policy and Brexit: simultaneously de-Europeanising, disengaging and (re)-engaging? *Journal of European Public Policy*, 30(11), 2349-2371.
- Green Finance Institute (2021). *Finance Gap for UK Nature Report*. <https://www.greenfinanceinstitute.co.uk/news-and-insights/finance-gap-for-uk-nature-report/>
- Hall, P. (2021). *Nature positive? Public attitudes towards the natural environment*. <https://www.brightblue.org.uk/wp-content/uploads/2021/07/Nature-positive.pdf>
- HM Government (2023). *Mobilising Green Investment (2023) Green Finance Strategy*. <https://assets.publishing.service.gov.uk/media/643583fb877741001368d815/mobilising-green-investment-2023-green-finance-strategy.pdf>
- HM Government (2024). *The King’s Speech*. <https://www.gov.uk/government/speeches/the-kings-speech-2024>
- Hughes, A. C., & Grumbine, R. E. (2023). The Kunming-Montreal Global Biodiversity Framework: what it does and does not do, and how to improve it. *Frontiers in Environmental Science*, 11, 1281536.
- IPBES (2019). *Intergovernmental science-policy platform on biodiversity and ecosystem services. Summary for Policy Makers of the Global Assessment Report on Biodiversity and Ecosystem Services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services*. IPBES Secretariat, Bonn, Germany.
- IUCN National Committee UK Protected Areas Working Group (2023). *Statements of Compliance for UK protected areas and ‘other effective area-based conservation measures’: 2023 review*. IUCN National Committee UK.
- Karolyi, G. A., & Tobin-de la Puente, J. (2023). Biodiversity finance: A call for research into financing nature. *Financial Management*, 52(2), 231-251.
- Kolbert, E. (2014). *The sixth extinction: An unnatural history*. A&C Black.
- Lawton, J. (2010). *Making space for nature: A review of England’s wildlife sites and ecological networks*. Defra.
- Leclère, D., Obersteiner, M., Barrett, M., Butchart, S. H., Chaudhary, A., De Palma, A., DeClerck, F. A. J., Di Marco, M., Doelman, J. C., Dürauer, M., Freeman, R., Harfoot, M., Hasegawa, T., Hellweg, S., Hilbers, J. P., Hill, S. L. L., Humpenöder, F., Jennings, N., Krisztin, T., ... & Young, L. (2020). Bending the curve of terrestrial biodiversity needs an integrated strategy. *Nature*, 585(7826), 551-556.
- Lee, M. (2022). Brexit and the Environment Bill: The Future of Environmental Accountability. *Global Policy*, 13(S2), 119–127. <https://doi.org/10.1111/1758-5899.13061>
- Lovell, S., Johnson, A. E., Ramdeen, R., & McClenachan, L. (2020). Shifted baselines and the policy placebo effect in conservation. *Oryx*, 54(3), 383-391.
- Natural England (2011). *[Habitat of the month: June 2011] Lowland meadows*. <http://webarchive.nationalarchives.gov.uk/20130903135107/http://www.naturalengland.org.uk/ourwork/conservation/biodiversity/englands/habitatofthemoth/h/lowlandmeadows.aspx>

- Newbold, T., Hudson, L. N., Hill, S. L., Contu, S., Lysenko, I., Senior, R. A., Börger, L., Bennett, D. J., Choimes, A., Collen, B., Day, J., De Palma, A., Díaz, S., Echeverría-Londoño, S., Edgar, M. J., Feldman, A., Garon, M., Harrison, M. L. K., Alhusseini, T., ... & Purvis, A. (2015). Global effects of land use on local terrestrial biodiversity. *Nature*, 520(7545), 45-50.
- Marshall, C. A., Wade, K., Kendall, I. S., Porcher, H., Poffley, J., Bladon, A. J., Dicks, L. V., & Treweek, J. (2024). England's statutory biodiversity metric enhances plant, but not bird nor butterfly, biodiversity. *Journal of Applied Ecology*, 61(8), 1918-1931.
- Pagiola, S. (2008). Payments for environmental services in Costa Rica. *Ecological economics*, 65(4), 712-724.
- Panks, S., White, N., Newsome, A., Nash, M., Potter, J., Heydon, M., Mayhew, E., Alvarez, M., Russell, T., Cashon, C., Goddard, F., Scott, S. J., Heaver, M., Scott, S. H., Treweek, J., Butcher, B., & Stone, D. (2022). *Biodiversity Metric 3.1: Auditing and accounting for biodiversity—Userguide*. Natural England.
- Perino, A., Pereira, H. M., Navarro, L. M., Fernández, N., Bullock, J. M., Ceaușu, S., Cortés-Avizanda, A., Van Klink, R., Kuemmerle, T., Lomba, A., Pe'er, G., Plieninger, T., Rey Benayas, J. M., Sandom, C. J., Svenning, J.-C., & Wheeler, H. C. (2019). Rewilding complex ecosystems. *Science*, 364(6438), eaav5570.
- Pettorelli, N., Graham, N. A. J., Seddon, N., da Cunha Bustamante, M. M., Lowton, M. J., Sutherland, W. J., Koldewey, H. J., Prentice, H. C., & Barlow, J. (2021). Time to integrate global climate change and biodiversity science-policy agendas. *Journal of Applied Ecology*, 58 (11), 2384-2393.
- Pörtner, H. O., Scholes, R. J., Arneeth, A., Barnes, D. K. A., Burrows, M. T., Diamond, S. E., Duarte, C. M., Kiessling, W., Leadley, P., Managi, S., McElwee, P., Midgley, G., Ngo, H. T., Obura, D., Pascual, U., Sankaran, M., Shin, Y. J., & Val, A. L. (2023). Overcoming the coupled climate and biodiversity crises and their societal impacts. *Science*, 380(6642), eabl4881IUCN. 2024. The IUCN Red List of Threatened Species. Version 2024. <https://www.iucnredlist.org>
- Ramplig, E. E., Zu Ermgassen, S. O., Hawkins, I., & Bull, J. W. (2024). Achieving biodiversity net gain by addressing governance gaps underpinning ecological compensation policies. *Conservation Biology*, 38(2), e14198.
- Sandström, C., Ring, I., Olschewski, R., Simoncini, R., Albert, C., Acar, S., Adeishvili, M., Allard, C., Anker, Y., Arlettaz, R., Bela, G., Coscieme, L., Fischer, A., Fürst, C., Galil, B., Hynes, S., Kasymov, U., Marta-Pedroso, C., Mendes, A., ... & Pergl, J. (2023). Mainstreaming biodiversity and nature's contributions to people in Europe and Central Asia: insights from IPBES to inform the CBD post-2020 agenda. *Ecosystems and People*, 19(1), 2138553.
- Scott, A., & Kirby, M. (2024). Improving strategic planning for nature: Panacea or Pandora's box for the built and natural environment? *Ambio*, 1-16.
- Soga, M., & Gaston, K. J. (2018). Shifting baseline syndrome: causes, consequences, and implications. *Frontiers in Ecology and the Environment*, 16(4), 222-230.
- The Royal Society (2023). *Multifunctional landscapes: Informing a long-term vision for managing the UK's land* https://royalsociety.org/-/media/policy/projects/living-landscapes/des7483_multifunctional-landscapes_policy-report-web.pdf
- The Wildlife Trusts (2024). *New poll finds most people think main parties falter on nature and climate crises in the run up to the General Election*. <https://www.wildlifetrusts.org/news/new-poll-finds-most-people-think-main-parties-falter-nature-and-climate-crises-run-general>
- Tilman, D., Clark, M., Williams, D. R., Kimmel, K., Polasky, S., & Packer, C. (2017). Future threats to biodiversity and pathways to their prevention. *Nature*, 546(7656), 73-81.
- Wentworth, J. (2024). *Biodiversity net gain*. (ed. Parliamentary Office of Science and Technology). <https://doi.org/10.58248/pn728>

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- Willemen, L., Barger, N. N., Brink, B. T., Cantele, M., Erasmus, B. F. N., Fisher, J. L., Gardner, T., Holland, T. G., Kohler, F., Kotiaho, J. S., von Maltitz, G. P., Nangendo, G., Pandit, R., Parrotta, J. A., Potts, M. D., Prince, S. D., Sankaran, M., Brainich, A., Montanarella, L., & Scholes, R. (2020). How to halt the global decline of lands. *Nat Sustain*, 3, 164–166. <https://doi.org/10.1038/s41893-020-0477-x>
- Wildlife and Countryside Link (2022). *Progress report on 30x30 in England*. https://www.wcl.org.uk/assets/uploads/img/files/WCL_2022_Progress_Report_on_30x30_in_England.pdf
- World Wide Fund for Nature (WWF) (2022). *How low opportunity cost livestock feed could support a more regenerative UK food system* (Full report). https://www.wwf.org.uk/sites/default/files/2022-06/future_of_feed_full_report.pdf
- Xu, H., Cao, Y., Yu, D., Cao, M., He, Y., Gill, M., & Pereira, H. M. (2021). Ensuring effective implementation of the post-2020 global biodiversity targets. *Nature Ecology & Evolution*, 5(4), 411-418.
- zu Ermgassen, S.O.S.E., Bull, J.W., & Groom, B. (2021). UK biodiversity: close gap between reality and rhetoric. *Nature*, 595, 172.