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Recovering what? Reversing Shifting Baseline Syndrome to enable nature recovery in UK National Parks

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Abstract

Globally, nations have committed to restoring nature at scale by 2030 and envisioning a future where “people live in harmony with nature” by 2050. Protected areas have thus been framed as a critical tool in addressing the biodiversity crisis. Yet the institutional frameworks that established protected areas may pose a significant barrier to achieving nature recovery. In this article, we use the UK as a case study to demonstrate that Shifting Baseline Syndrome (SBS) - the gradual acceptance of ecological degradation - is a significant barrier to nature recovery. We explore two forms of SBS: personal (PSBS) and institutional (ISBS). Drawing on case studies from the UK and beyond, we identify issues around ‘experiences of nature’ and ‘knowledge of nature’ in UK National Parks (NP). Building on these insights, we propose a policy pathway that reimagines NPs as dynamic, biodiverse landscapes capable of fostering coexistence between human and non-human communities. Achieving this vision requires a fundamental rethinking of NP purposes and duties, enabling more place-sensitive policies and practices within Britain’s most treasured natural spaces.

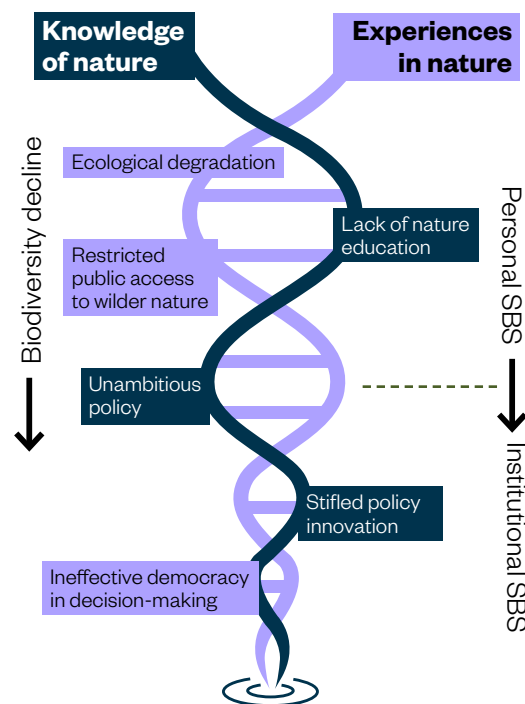
Keywords: shifting baseline syndrome; generational amnesia; nature connectedness; nature recovery; biodiversity; national parks; rewilding; protected areas

Introduction: Nature degradation in National Parks

Shifting Baseline Syndrome (SBS) is a socio-psychological phenomenon in which individuals and institutions perceive degraded environmental states as normal¹. Although well-recognised in psychology-disciplines, SBS remains underexplored in the context of place-based nature recovery, particularly regarding how it can be reversed through positive action. This article explores two interrelated forms of SBS: Personal SBS (PSBS) and Institutional SBS (ISBS). PSBS is influenced by the diminished state of nature that people are exposed to, known as the 'extinction of experience'² and their knowledge of nature, including its decline over time, known as generational amnesia³. These lowered expectations have become systemic and engrained, creating Institutional SBS. ISBS manifests when degraded baselines are codified into both policy and legislation⁴ or 'institutional knowledge', and subsequently are subsumed into the principles and actions of influential stakeholder groups⁵ or 'institutional experience' of nature.

Protected areas demonstrate how PSBS and ISBS interact. Despite their key role in global nature recovery goals (e.g., the 30x30 target⁶), protected areas are often defined and managed by ISBS, relying on static or degraded baselines⁷. This exposes citizens/visitors to these landscapes repeatedly to degraded nature, reinforcing PSBS. This PSBS-ISBS interaction has been largely overlooked, creating a significant gap in research, policy, and practice. Focusing on the UK's NPs the protected area type covering the most land, this paper explores SBS issues and proposes a policy pathway with six overarching, transferable themes that influence SBS in protected areas (Figure 1).

Figure 1: The Shifting Baseline Syndrome 'vortex of decline'



- 1 Pauly, D., 1995. Anecdotes and the shifting baseline syndrome of fisheries. *Trends in ecology and evolution*, 10(10), p.430.
- 2 Soga, M. and Gaston, K.J., 2016. Extinction of experience: the loss of human-nature interactions. *Frontiers in Ecology and the Environment*, 14(2), pp.94-101.
- 3 Papworth, S.K., Rist, J., Coad, L. and Milner-Gulland, E.J., 2009. Evidence for shifting baseline syndrome in conservation. *Conservation letters*, 2(2), pp.93-100.
- 4 Soga, M. and Gaston, K.J., 2018. Shifting baseline syndrome: causes, consequences, and implications. *Frontiers in Ecology and the Environment*, 16(4), pp.222-230.
- 5 Glentworth, J., Hawkins, A., Bennett, E., Webb, S. and Hammond, C., 2024. Nature Recovery Now: How the new UK Government needs to act to address the biodiversity crisis with five key priorities. *People, Place and Policy Online*.
- 6 Zabala, A., Palomo, I., Múgica, M. and Montes, C., 2024. Challenges beyond reaching a 30% of area protection. *npj Biodiversity*, 3(1), p.9.
- 7 Monsarrat, S., Novellie, P., Rushworth, I. and Kerley, G., 2019. Shifted distribution baselines: neglecting long-term biodiversity records risks overlooking potentially suitable habitat for conservation management. *Philosophical Transactions of the Royal Society B*, 374(1788):20190215.

UK NPs currently contribute minimally to biodiversity recovery, with only 6% of land effectively managed for nature⁸. Most are IUCN Category V protected areas, reflecting long-term human-nature interactions, but which rely on static, historically influenced baselines that prioritise aesthetic continuity and cultural values. Their landscapes are further shaped by planning regulations, concentrated land ownership, and policy constraints. Over 85% of land in UK NPs is privately owned and managed for agriculture and recreation by a small number of stakeholders⁹, significantly influencing land use. In light of the biodiversity crisis, UK NPs offer an ideal focus for addressing SBS – from an ecological perspective, as key areas contributing to 30x30, and from a sociological perspective, due to their purpose facilitating public access and the strong place-based connections embedded in the British public as a result.

The six themes influencing PSBS and ISBS shown in Figure 1, have been used to develop a policy pathway for guiding nature recovery in UK NPs – with ten specific recommendations (Table 1). This article builds the case for this policy pathway, responding to the call that “future policies and actions aimed at reversing SBS should combine multiple strategies rather than solely relying on providing experiences and knowledge”¹⁰. We have included examples of ‘Lead organisations’ to show the need for multiple agencies across sectors to address the identified problems, acknowledging the associated resource implications of these calls to action.

Table 1: Policy recommendations for Reserving Shifting Baseline Syndrome in UK National Parks. Recommendations in red relate to experiences of nature, in blue we refer to knowledge of nature.

		Policy pathway recommendation	Lead organisation
Addressing Personal Shifting Baseline Syndrome	Ecological degradation	Policy pathway - recommendation 1: Establish place-based species reintroduction plans that are aligned with scientific evidence, legal frameworks and existing National Park policies and monitor both the ecological and social influences of releases	NP Authorities, Species Recovery Groups, Environmental NGOs
	Restricted public access to wilder nature	Policy pathway recommendation 2: Increase opportunities for land ownership in UK NPs by groups that prioritise both nature recovery and public access to significantly improve the equality and inclusivity of the right to access and experience nature across all UK NPs	UK Government*, NP Authorities, Heritage Lottery Fund, Environmental NGOs
		Road map recommendation 3: Establish nature libraries for National Parks to offer inclusive access that enhances nature connectedness particularly for hard to reach groups	NP Authorities, Libraries Connected, Local Education Partners, museums, NGOs
	Lack of nature education	Road map recommendation 4: Fund intergenerational knowledge exchange programmes within National Parks and integrate outputs into policies governance structures	UK Government*, Heritage Lottery Fund, Local Authorities, NP Authorities, Local Education Partners, NGOs
		Road map recommendation 5: Include specific sections within the Natural History GCSE highlighting deep-time anthropogenic impacts on biodiversity and the concept of SBS, using NPs as tangible case-studies	Department for Education, Exam Boards, museums, natural history experts

8 Glover, J., Cameron, E., Mukherjee, S., Dixon, J., Reynolds, F. & Fiennes, J. (2019). Landscapes Review: Final Report. Department for Environment, Food & Rural Affairs.

9 Fischer, A. and Marshall, K., 2010. Framing the landscape: discourses of woodland restoration and moorland management in Scotland. *Journal of Rural Studies*, 26(2), pp.185-193.

10 Soga, M. and Gaston, K.J., 2024. Global synthesis indicates widespread occurrence of shifting baseline syndrome. *BioScience*, 74(10), pp.686-694.

Addressing Institutional Shifting Baseline Syndrome	Unambitious policy	Road map recommendation 6: Define ambitious nature recovery targets for National Parks using scientifically informed spatial analogues and deep-time baselines to set legal targets that will significantly increase the quality and quantity of more ecologically intact ecosystems	UK Government*, Natural England, Landscape Institute, NP Authorities
	Stifled policy innovation	Road map recommendation 7: Develop a National Park Network that integrates with other nature networks and enshrines National Parks as core areas for biodiversity that are connected by corridors	UK Government*, NP Authorities, National Infrastructure Bodies
		Road map recommendation 8: Establish Nature Innovation Areas to trial bold experimental approaches to nature recovery, restoration and rewilding	UK Government*, Innovation Funds, NP Authorities, Research Institutions

*UK Government = responsible departments across the devolved administrations, e.g., Defra but also directorates in Scottish, Welsh and Northern Irish governments

Recent scrutiny has prompted proposals to strengthen nature recovery in NPs, including calls for better resourcing to meet ecological and social challenges¹¹. However, we argue that new, ambitious framings of nature recovery are needed – moving beyond narrow, prescriptive approaches informed by shifted baselines. Nature recovery should focus on restoring ecosystem complexity¹² (boosting the number and diversity of components and their interactions) and enhancing resilience¹³ (the system's ability to absorb disturbance while maintaining key functions). We refer to nature recovery as this process of enhancing ecosystem complexity and resilience (EECR) in protected areas and beyond.

11 <https://www.cnp.org.uk/health-check-report/>

12 Jepson, P.R., 2022. To capitalise on the Decade of Ecosystem Restoration, we need institutional redesign to empower advances in restoration ecology and rewilding. *People and Nature*, 4(6), pp.1404-1413.

13 Gunderson, L.H., 2000. Ecological resilience in theory and application. *Annual review of ecology and systematics*, 31(1), pp.425-439.

PERSONAL SBS:

The issue of extinction of experience

Globally, declining biodiversity and increasingly urbanised lifestyles mean “profound experiences of or relations to a diverse and rich bicultural countryside are lost”¹⁴. Robert Pyle termed this the ‘extinction of experience’¹⁵, referring to the progressive loss of human-nature interactions. An extinction of experience has wide-ranging effects: reducing the human-derived benefits of nature interactions, weakening public support for pro-conservation policies, and ultimately affecting the trajectory of nature recovery¹⁶. As such, the extinction of experience has been described as “one of the key environmental concepts of our times”¹⁷ and a significant driver of the biodiversity crisis^{18,19}.

Although a global phenomenon²⁰, the extinction of experience is intensified in the UK due to extreme drivers: in 2023, it was ranked the 12th most nature-depleted country²¹, and 94.6% of the population live in built-up areas²². UK NPs should be ideally placed to counteract the extinction of experience, being originally designated to give an urbanising population access to “wildlife and scenic beauty”²³, and including a 1995 amendment to “conserve and enhance wildlife”²⁴. Yet, nature in UK NPs is more degraded than outside their boundaries, with lower habitat quality and higher species extinctions²⁵. This disconnect between NPs’ intention to connect people to nature and the ecological reality reinforces, rather than remedies, the extinction of experience.

An extinction of experience is both a driver and outcome of SBS. It drives SBS by encouraging people to accept degraded biodiversity as normal, “accelerating the loss of their memory about earlier (more intact) environmental states”²⁶. This is especially pronounced in UK NPs, often viewed as historic landscapes²⁷, and therefore perhaps more likely to be incorrectly considered as more biodiverse. For instance, heathland landscapes, shaped by grazing, burning, and cutting, are commonly perceived as natural, with 75% of surveyed visitors to the Peak District NP citing the ‘naturalness’ of heather moorlands as a key reason for visiting²⁸.

SBS can also cause an extinction of experience. People may be less inclined to seek out or may reject interactions with more ecologically complex environments. This has been recorded in UK NPs, including resistance to increasing tree cover in the Lake District²⁹ and opposition to species reintroductions like wild boar and lynx³⁰. While reintroductions divide opinions, low levels of nature

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- 14 Hilding-Rydevik, T., Moen, J., & Green, C. (2017). Baselines and the Shifting Baseline Syndrome – Exploring Frames of Reference in Nature Conservation. In: C.L. Crumley, T. Lennartsson & A. Westin, eds. *Issues and Concepts in Historical Ecology: The Past and Future of Landscapes and Regions*. Cambridge: Cambridge University Press, p135.
- 15 Pyle, R. M. (1992). Intimate relations and the extinction of experience. In L. Stovall (Ed.), *Left bank #2 extinction* (pp. 61–69). Hillsboro, OR: Blue Heron Publishing.
- 16 Colléony, A., Cohen-Seffer, R. and Shwartz, A. (2020). Unpacking the causes and consequences of the extinction of experience. *Biological Conservation*, 251:108788.
- 17 Gaston, K.J., and Soga, M. (2020) “Extinction of experience: The need to be more specific.” *People and Nature* 2, no. 3 (2020), pp.575.
- 18 Miller, J.R. (2005). Biodiversity conservation and the extinction of experience. *Trends in Ecology & Evolution* 20(8): 431.
- 19 Pyle, R.M. (2003). Nature matrix: reconnecting people and nature. *Oryx* 37(2): 206-214
- 20 Shanahan, D.F., Cox, D.T., Fuller, R.A., Hancock, S., Lin, B.B., Anderson, K., Bush, R. and Gaston, K.J., 2017. Variation in experiences of nature across gradients of tree cover in compact and sprawling cities. *Landscape and Urban Planning*, 157, pp.231-238.
- 21 <https://www.wildlifetrusts.org/sites/default/files/2023-09/State-of-Nature-Press%20release%20-%20England.pdf>
- 22 Office for National Statistics (ONS). (2023). *Towns and cities: characteristics of built-up areas, England and Wales: Census 2021*. Office for National Statistics. Available at: <https://www.ons.gov.uk/peoplepopulationandcommunity/housing/articles/townsandcitiescharacteristicsofbuiltupareasenglandandwales/census2021> [Accessed 3 Jun. 2025].
- 23 Sheail, J. (1975). The concept of national parks in Great Britain 1900-1950. *Transactions of the Institute of British Geographers* 66: 41-56.
- 24 Butler, T. (2018). An overview of the national parks system in England & Wales. *Revue Juridique de l'Environnement*, 43(2): 317–328.
- 25 JNCC (2023). *State of Nature Report*. Available at: <https://stateofnature.org.uk/> [Accessed 3 Jun. 2025].
- 26 Soga, M. and Gaston, K.J. (2018). Shifting baseline syndrome: causes, consequences, and implications. *Frontiers in Ecology and the Environment* 16(4): 3.
- 27 Hilding-Rydevik, T., Moen, J., & Green, C. (2017). Baselines and the Shifting Baseline Syndrome – Exploring Frames of Reference in Nature Conservation. In: C.L. Crumley, T. Lennartsson & A. Westin, eds. *Issues and Concepts in Historical Ecology: The Past and Future of Landscapes and Regions*. Cambridge: Cambridge University Press, pp.112–144.
- 28 Suckall, N., Fraser, E.D., Cooper, T. and Quinn, C., 2009. Visitor perceptions of rural landscapes: A case study in the Peak District National Park, England. *Journal of environmental management*, 90(2), pp.1195-1203.
- 29 Harvey, D., Thompson, N., Scott, C. & Hubbard, C. (2013). *Farming and Farm Forestry in the Lake District*. Newcastle upon Tyne: Centre for Rural Economy, Newcastle University. Available at: <https://www.ncl.ac.uk/mediav8/centre-for-rural-economy/files/farming-forestry.pdf> [Accessed 3 Jun. 2025].
- 30 BBC (2025). John Swinney rules out reintroduction of lynx to Scotland. Available at: <https://www.bbc.co.uk/news/articles/c5yv985xz17o> [Accessed 3 Jun. 2025].

connectedness in the UK³¹ have been linked to “reduced sensory contact with organisms in a shared physical space”³². This cyclical relationship between SBS and extinction of experience fosters acceptance of ecological decline and resistance to recovery efforts³³. The following section explores how this cycle might be broken to improve nature experiences and address SBS.

Overcoming the extinction of experience

We propose two approaches to address an extinction of experience in protected areas; 1) enhancing ecological complexity and resilience (EECR) and 2) improving public access to these restored ecosystems. The following section sets out specific recommendations for achieving this in UK NPs.

Policy pathway recommendation 1: Establish place-based species reintroduction plans that are aligned with scientific evidence, legal frameworks and existing National Park policies and monitor both the ecological and social influences of releases

Strengthening nature connectedness “can achieve only limited success in environments that have lost much of their original biota”³⁴. Species reintroductions can help restore that connection by fostering a sense of place, rekindling ties to natural heritage, stimulating awe and promoting stewardship³⁵. Targeting reintroductions in UK NPs - where nature-based tourism is high - can engage more people and reinforce the parks’ relevance in the 21st century³⁶. While smaller predators like wildcat (*Felis silvestris*) and pine marten (*Martes martes*) have been reintroduced in some NPs³⁷, most sanctioned UK reintroductions - especially of larger, more charismatic species like white-tailed sea eagle (*Haliaeetus albicilla*), beaver (*Castor fiber*), and bison (*Bison bonasus*) - remain limited and largely occur outside NP boundaries. We acknowledge that in some situations further habitat restoration work might be required prior to reintroductions. However, in some cases parts of the UK has sufficient suitable habitat for reintroductions to occur (e.g., Lynx (*Lynx lynx*)³⁸)

Research on species reintroductions outside UK NPs highlights their potential to create positive wildlife experiences through nature-based tourism³⁹. Encounters with large or charismatic animals can generate ‘memorable wildlife experiences’ that counter the extinction of experience⁴⁰, eliciting feelings of wonder, wellbeing, and stronger place attachment⁴¹. The five-year River Otter beaver trial gained support from landowners, residents, and visitors⁴²; residents reported enhanced enjoyment of walks and emotions such as excited’, ‘interested’, ‘happy’, ‘pleased’ and ‘privileged’⁴³. While reintroductions can spark emotional engagement with nature, they remain contentious. Stakeholder responses to reintroductions are shaped by personal values and identity meaning

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- 31 White, M.P., Elliott, L.R., Grellier, J., Economou, T., Bell, S., Bratman, G.N., Cirach, M., Gascon, M., Korpela, K., Lange, E., Meyer-Lindenberg, A., Michelsen, T.M., Nieuwenhuijsen, M., Ollson, C.A., Paquet, C., Richardson, M., Sarigiannis, D.A., Triguero-Mas, M., van den Bosch, M.A., & Fleming, L.E. (2021). Associations between green/blue spaces and mental health across 18 countries. *Scientific Reports* 11: 8903.
- 32 Gandy, S. and Watts, R. (2021). Potential psychological benefits of nature enrichment through the reintroduction of the Eurasian beaver (*Castor fiber*) to Britain: a narrative literature review. *Eurasian Journal of Ecopsychology* 7: 41-74.
- 33 Soga, M., Gaston, K.J., Fukano, Y. and Evans, M.J. (2023). The vicious cycle of biophobia. *Trends in Ecology & Evolution* 38(6): 512-520.
- 34 Seddon, P.J., van Heezik, Y. & Berkoff, M. (2013). Reintroductions to ‘ratchet up’ public perceptions of biodiversity: Reversing the extinction of experience through animal restorations. In: Miller, R., ed. *Ignoring Nature No More: The Case for Compassionate Conservation*. Washington, DC: Island Press, p.138.
- 35 Parker, K. A. 2008. “Translocations: Providing Outcomes for Wildlife, Resource Managers, Scientists, and the Human Community.” *Restoration Ecology* 16: 204–9.
- 36 Weiler, B., Moore, S.A. & Moyle, D.B. (2013). Building and sustaining support for national parks in the 21st century: Why and how to save the national park experience from extinction. *Journal of Park and Recreation Administration* 31(2): 115–131.
- 37 Soga, M. and Gaston, K.J., 2018. Shifting baseline syndrome: causes, consequences, and implications. *Frontiers in Ecology and the Environment*, 16(4), pp.222-230.
- 38 Johnson, R., & Greenwood, S. (2020). Assessing the ecological feasibility of reintroducing the Eurasian lynx (*Lynx lynx*) to southern Scotland, England and Wales. *Biodiversity and Conservation*, 29(3), 771-797.
- 39 RSPB (2022) The economic impact of white-tailed eagles on the Isle of Mull. [online] Available at: <https://raptorpersecutionuk.org/wp-content/uploads/2022/03/white-tailed-eagles-economics-report-mull-march-28-2022.pdf> [Accessed 3 Jun. 2025].
- 40 Gandy, S. and Watts, R. (2021). Potential psychological benefits of nature enrichment through the reintroduction of the Eurasian beaver (*Castor fiber*) to Britain: a narrative literature review. *Eurasian Journal of Ecopsychology* 7: 41-74.
- 41 Horwitz, P., Lindsay, M. & O’Connor, M. (2001). Biodiversity, endemism, sense of place, and public health: inter-relationships for Australian inland aquatic systems. *Ecosystem Health* 7: 253–265.
- 42 Auster, R.E., Barr, S. and Brazier, R. (2021). Alternative perspectives of the angling community on Eurasian beaver (*Castor fiber*) reintroduction in the River Otter Beaver Trial. *Journal of Environmental Planning and Management* 64(7): 1252-1270.
- 43 Auster, R.E., Barr, S.W. and Brazier, R.E. (2020). Wildlife tourism in reintroduction projects: Exploring social and economic benefits of beaver in local settings. *Journal for Nature Conservation* 58: 125920.

place-based, context specific approaches are vital. Evidence shows participatory processes can build consensus and must be applied in NP reintroduction programmes to build stakeholder support⁴⁴. We recognise that in some situations 'consensus building' might be challenging due to a range of social, political and economic factors at play. However, species co-existence and management programmes are likely to be more successful if they integrate a broad range of knowledge of stakeholder's opinions including emotions to design effective management strategies⁴⁵.

Policy pathway recommendation 2: Increase opportunities for land ownership in UK National Parks by groups that prioritise both nature recovery and public access to significantly improve the equality and inclusivity of the right to access and experience nature across all UK National Parks

Enhancing ecosystem complexity and resilience in NPs alone will not reverse the extinction of experience; equitable and expanded access to restored nature is also essential⁴⁶. UK NPs have a core remit to provide public access, unlike many private projects (e.g., Wild Ken Hill, Pirbright Ranges). However, private land ownership often restricts access and reinforces traditional land uses that favour preserving 'cherished landscapes' over restoring nature or broadening public engagement⁴⁷. Although the Countryside and Rights of Way Act (2000) improved access in England and Wales, restrictions remain. In Scotland, a general rights of access law exists, but some hunting estates illegally advise walkers to stay on paths⁴⁸. Inclusivity barriers persist too, with ethnic minorities and marginalised communities frequently feeling unwelcome⁴⁹.

The Campaign for National Parks (CNP) has advocated for greater public access and nature recovery through increased public (state) land ownership⁵⁰. While this could achieve both goals, it appears unrealistic given the current economic climate. An alternative approach is to support ownership by groups or individuals committed to both nature recovery and public access, with Government incentives provided to facilitate this model. A relevant example is Cumbria Wildlife Trust's purchase of Skiddaw Fell in the Lake District NP, funded through public crowdfunding and private investment, with plans to restore temperate rainforest and promote public access⁵¹.

Concerns exist that increasing recreational access may disturb wildlife and fragile habitats in UK NPs⁵². However, evidence emerging suggests that vegetation recovery can mitigate these impacts² by providing cover for wildlife and guiding visitors along paths⁵³. The Glenfeshie Wildland Project in Cairngorms NP shows how rewilding can balance conservation and access: following deer culling and woodland regeneration, open access is allowed, but the terrain naturally channels recreation away from sensitive areas. This has aided the recovery of the critically endangered Western capercaillie (*Tetrao urogallus*) and demonstrates that private landowners can support both nature and visitors. Other projects highlight that community engagement and inclusive governance are crucial for success. For example, the Coigach and Assynt Living Landscape (CALL) project engages communities across 635 km², combining restoration with education, participation, and inclusive decision-making.

Policy pathway recommendation 3: Establish nature libraries for National Parks to offer inclusive access that enhances nature connectedness particularly for hard to reach groups.

44 Auster, R.E., Barr, S.W. and Brazier, R.E. (2021). Improving engagement in managing reintroduction conflicts: learning from beaver reintroduction. *Journal of Environmental Planning and Management* 64(10): 1713-1734.

45 Trebo, S., Cary, E., & Wartmann, F. M. (2025). Emotions shape attitudes towards wolf conservation management in the Italian Alps. *European Journal of Wildlife Research*, 71(1), 7.

46 Schuttler, S.G., Seddon, P.J., Griffiths, R.A., & Maggs, H.E. (2018). Quality, quantity, and access to wilder nature: Implications for biodiversity conservation and human well-being. *Frontiers in Ecology and the Environment* 16(9): 513–521.

47 <https://www.bbc.co.uk/news/articles/cx2x08q52wio>

48 Kempe, N. (2020). Unlawful signs, access authorities and the right to roam. *Parkswatch Scotland*. Available at: <https://parkswatchscotland.co.uk/2020/11/27/unlawful-signs-access-authorities-and-the-right-to-roam/> [Accessed 3 Jun. 2025].

49 <https://publications.naturalengland.org.uk/file/5604164704141312>

50 Ibid - See 12

51 <https://www.cumbriawildlifetrust.org.uk/nature-reserves/skiddaw-forest>

52 Pearce-Higgins, J.W., Finney, S.K., Yalden, D.W. and Langston, R.H.W., 2007. Testing the effects of recreational disturbance on two upland breeding waders. *Ibis*, 149, pp.45-55.

53 Gilchrist, A., Glentworth, J., Mohd Radzuan, H.S.M. & Clay, G. (2023). The influence of recreational activity on upland ecosystems in the UK: A review of evidence. *Natural England Evidence Review, NEERO25*. Available at: <https://publications.naturalengland.org.uk/publication/6595767901618176> [Accessed 3 Jun. 2025].

It is well-recognised that visitors to UK NPs do not reflect the country's diverse demographics, e.g., only 1% of visitors to English NPs are from Black, Asian, and minority ethnic (BAME) backgrounds⁵⁴. The *Landscapes Review* called for expanding initiatives like the Mosaic project, which linked BAME communities in deprived urban areas with nearby NPs⁵⁵. Programmes should also include other under-represented groups, such as low-income families and marginalised communities. Addressing the extinction of experience, however, requires more than access - it demands deeper nature connectedness. *Culture Nature England*, a partnership between Libraries Connected and Natural England, supported this by fostering place-based engagement through libraries⁵⁶. Multi-sensory and interdisciplinary activities improved environmental awareness, community engagement and mental wellbeing. Similar programmes could connect urban communities with NP nature recovery projects, embedding inclusive, accessible opportunities to foster greater exposure, access, and connection to nature in NPs.

PERSONAL SBS:

The issue of generational amnesia

In addition to an extinction of experience, SBS also stems from lost knowledge of past environmental conditions, leading to degraded states being accepted as normal⁵⁷. This is most evident in 'generational amnesia', where each generation sees the environment of its youth as the norm, and knowledge of more intact past states is not passed down^{58,59}. As opportunities for human-nature interaction decline, so too does the cultural memory, language, and meaning that once sustained ecological knowledge.

Urbanisation contributes to the loss of ecological knowledge by distancing people, physically and socially, from nature^{60,61}. Reduced species richness, limited green space, and more time indoors restrict ecological learning, particularly for children⁶². Urban schoolchildren show lower levels of nature connectedness, which is critical as childhood experiences shape adult environmental attitudes⁶³. Participation in groups promoting connectedness and learning about nature like Scouts or church camps increases nature engagement in later life⁶⁴. Without intergenerational knowledge exchange or memories of richer ecosystems, emotional motivation for conservation declines; in essence, "we grieve only for what we know"⁶⁵.

54 https://www.cpre.org.uk/wp-content/uploads/2021/08/August-2021_Access-to-nature-in-the-English-countryside_research-overview.pdf

55 <https://assets.publishing.service.gov.uk/media/5d8a19a3e5274a083d3b78bd/landscapes-review-final-report.pdf>

56 Natural England (2023). Reconnecting communities with nature through local libraries. Natural England Blog. Available at: <https://naturalengland.blog.gov.uk/2023/10/04/reconnecting-communities-with-nature-through-local-libraries/> [Accessed 3 Jun. 2025].

57 Papworth, S.K., Rist, J., Coad, L. and Milner-Gulland, E.J. (2009). Evidence for shifting baseline syndrome in conservation. *Conservation Letters* 2(2): 93-100.

58 Kahn, P.H., Jr., & Friedman, B. (1995). Environmental views and values of children in an inner-city black community. *Child Development* 66: 1403-1417.

59 Kahn Jr, P.H. (2002) Children's affiliations with nature: Structure, development, and the problem of environmental generational amnesia. In: P.H. Kahn Jr and S.R. Kellert (eds.) *Children and nature: Psychological, sociocultural, and evolutionary investigations*. Cambridge, MA: MIT Press, pp.93-116.

60 Hartig, T. and Kahn Jr, P.H. (2016). Living in cities, naturally. *Science* 352(6288): 938-940.

61 Gaston, K.J. and Soga, M. (2020). Extinction of experience: The need to be more specific. *People and Nature* 2(3): 575-581.

62 Soga, M. and Gaston, K.J., 2016. Extinction of experience: the loss of human-nature interactions. *Frontiers in Ecology and the Environment*, 14(2), pp.94-101.

63 Price, E., Maguire, S., Firth, C., Lumber, R., Richardson, M. and Young, R. (2022). Factors associated with nature connectedness in school-aged children. *Current Research in Ecological and Social Psychology* 3: 100037.

64 Tomasso, L.P., Cedeño Laurent, J.G., Chen, J.T. and Spengler, J.D. (2022). Implications of disparities in social and built environment antecedents to adult nature engagement. *PloS one* 17(9) p.e0274948.

65 Leopold, A. (1989). *A Sand County almanac, and sketches here and there*. Oxford University Press: USA p.48.

PERSONAL SBS:

Solutions to address generational amnesia

Childhood experiences are key to reversing the generational amnesia dimension of SBS. We propose that solutions should increase opportunities for direct, emotional experiences with ecologically complex and resilient nature to aid better understanding of degraded states, and promote intergenerational knowledge-sharing and deep-time education to embed awareness of past ecological condition. Crucially, these must go beyond providing facts and foster holistic, relational thinking that cultivates a sense of belonging within ecosystems and deeper understanding of ecological loss⁶⁶.

Policy pathway recommendation 4: Fund intergenerational knowledge exchange programmes within National Parks and integrate outputs into policies governance structures

Creating more opportunities for children to engage directly with local ecosystems fosters deep connections to place; enhancing identity, belonging, and ultimately nature connectedness⁶⁷. Critically, experiences in ‘wild nature’ that foster knowledge acquisition – such as camping or fishing – have a stronger influence on adult environmentalism than ‘domesticated’ nature experiences^{68,69}. The [Landscapes Review](#) proposed that every child should “have a night under the stars” in a protected area. However, to address generational amnesia, this must take place in ecologically complex, resilient environments and promote active learning. Nature-rich NP experiences can help reconnect people with nature⁷⁰ and serve as reference points for lost ecological baselines⁷¹. Opportunities to engage with ecosystems where charismatic species have been reintroduced are particularly valuable, as “the attitude that wild animals evoke in us can best be described as a sense of awe, “helping children form deep connections with nature through its grandeur”⁷².

Inter-generational knowledge exchange is increasingly being seen as a novel, place-based technique to address generational amnesia, involving collective memory and stakeholder collaboration to renew ecological understanding across generations⁷³. Sharing memories of lost nature through storytelling and community events promotes inclusive, local learning. In East Yorkshire, the [Virtual Ecologies](#) project uses SBS to explore the intersection between farming, biodiversity, and coastal pressures. The project combines outdoor workshops, creative practices, and intergenerational collaboration with artists and scientists to support ecological knowledge exchange. Empathy and anthropomorphism of nonhuman species also encourage emotional investment in conservation⁷⁴. [The Beaver Trust’s education programmes](#) provides structured sessions and online resources to inform children about nature’s degraded state and the role of reintroduced species in nature recovery⁷⁵.

66 Ito, K. and Li, L.M.W. (2019). Holism and pro-environmental commitment: An examination on the mediating roles of affective and cognitive determinants. *Personality and Individual Differences* 149: 160-166.

67 Kellstedt, D.K., Suess, C.S. and Maddock, J.E. (2024). Influences of Outdoor Experiences During Childhood on Time Spent in Nature as an Adult. *AJPM Focus* 3(4): p.100235.

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69 Wells, N.M. and Lekies, K.S. (2006). Nature and the life course: Pathways from childhood nature experiences to adult environmentalism. *Children, Youth and Environments* 16(1): 1-24.

70 Kahn Jr, P.H. (2002) Children’s affiliations with nature: Structure, development, and the problem of environmental generational amnesia. In: P.H. Kahn Jr and S.R. Kellert (eds.) *Children and nature: Psychological, sociocultural, and evolutionary investigations*. Cambridge, MA: MIT Press, p.112

71 Arcese, P. and Sinclair, A.R. (1997). The role of protected areas as ecological baselines. *The Journal of Wildlife Management* 61(3):587-602.

72 Pp.7&8, Schilhab, T.S. and Esbensen, G.L., 2025. Wild animals connect us with nature: about awe, eco-pedagogy, and nature-connectedness. *Frontiers in Psychology*, 16, p.1523831.

73 Amprazis, A. and Papadopoulou, P. (2020). Plant blindness: a faddish research interest or a substantive impediment to achieve sustainable development goals?. *Environmental Education Research* 26(8): 1065-1087.

74 Balding, M. and Williams, K.J. (2016). Plant blindness and the implications for plant conservation. *Conservation Biology* 30(6): 1192-1199.

75 <https://beavertrust.org/education/education-resources/>

Policy pathway recommendation 5: Include specific sections within the Natural History GCSE highlighting deep-time anthropogenic impacts on biodiversity and the concept of SBS, using NPs as tangible case-studies.

The Natural History GCSE, launched in September 2025, aims to deepen students' understanding of nature, climate change, and sustainability. This has been introduced because many students and teachers feel unprepared for environmental challenges^{76,77} while 78% of children worry about climate issues⁷⁸. This GCSE creates an opportunity to educate children on deep time perspectives of past biodiversity and historic baselines⁷⁹. Content should promote understanding of how cumulative actions have resulted in the ecological and climate crises to foster holistic thinking, a known determinant of pro-environmental behaviours⁸⁰. At an age when nature connectedness is shown to decline⁸¹, this GCSE provides an opportunity to increase scientific knowledge of lost biodiversity and foster nature-connectedness and environmental stewardship.

INSTITUTIONAL SBS:

Issues of cementing inappropriate baselines

Baselines are the reference point for a species, landscape, or ecosystem's 'natural' state. They are fundamental to the scientific and policy processes that assess and respond to environmental impacts and are used to determine the goals of nature restoration. Often subliminal, they are "one of the most ubiquitous, yet unrecognised" elements in environmental regulation⁸². Using recent baselines to inform conservation can therefore embed SBS in policy and legislation⁸³. This 'Institutional SBS' (ISBS) entrenches degraded ecological conditions, influencing definitions of ecological function⁸⁴, legislative targets⁸⁵, and limits restoration efforts⁸⁶. Consequently, degraded conditions become the accepted norm and constrain visions for future ecosystems and human relationships within them⁸⁷.

Globally, ISBS has shaped legislation and conservation around distorted baselines⁸⁸. In the U.S., both NPs⁸⁹ and the Wilderness Act emphasized aesthetic ideals of 'pristine' nature⁹⁰, which

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- 76 Teach the Future (2021). Teaching the Future Summary Report. Available at: https://cdn.prod.website-files.com/5f8805cec9a94e60b31d616b/6045e0f1d947afbc651a21d_Teaching%20the%20Future%20Summary%20Report.pdf (Accessed: 3 June 2025).
- 77 Howard-Jones, P., Sands, D., Dillon, J. and Fenton-Jones, F. (2021). The views of teachers in England on an action-oriented climate change curriculum. *Environmental Education Research* 27(11): 1660-1680.
- 78 Greenpeace UK (2023). Majority of under-12s worried about climate change, survey shows. [online] Available at: <https://www.greenpeace.org.uk/news/majority-of-under-12s-worried-about-climate-change-survey-shows/> [Accessed 3 June 2025].
- 79 Donlan, J. (2005). Re-wilding north America. *Nature* 436(7053): 913-914.
- 80 Ito, K. and Li, L.M.W. (2019). Holism and pro-environmental commitment: An examination on the mediating roles of affective and cognitive determinants. *Personality and Individual Differences* 149: 160-166.
- 81 Hughes, J., Rogerson, M., Barton, J. and Bragg, R., 2019. Age and connection to nature: when is engagement critical?. *Frontiers in Ecology and the Environment*, 17(5), pp.265-269.
- 82 pp.3: Ureta, S., Lekan, T. and Von Hardenberg, W.G., 2020. Baselining nature: An introduction. *Environment and Planning E: Nature and Space*, 3(1), pp.3-19.
- 83 Lovell, S., Johnson, A.E., Ramdeen, R. and McOlenachan, L., 2020. Shifted baselines and the policy placebo effect in conservation. *Oryx*, 54(3), pp.383-391.
- 84 Vera, F., 2010. The shifting baseline syndrome in restoration ecology. In *Restoration and history* (pp. 116-128). Routledge.
- 85 Glentworth, J., Hawkins, A., Bennett, E., Webb, S. and Hammond, C., 2024. Nature Recovery Now: How the new UK Government needs to act to address the biodiversity crisis with five key priorities. *People, Place and Policy Online*
- 86 Guerrero-Gatica, Matías, Enrique Aliste, and Javier A. Simonetti. "Shifting gears for the use of the shifting baseline syndrome in ecological restoration." *Sustainability* 11.5 (2019): 1458
- 87 Monsarrat, S., Novellie, P., Rushworth, I. and Kerley, G., 2019. Shifted distribution baselines: neglecting long-term biodiversity records risks overlooking potentially suitable habitat for conservation management. *Philosophical Transactions of the Royal Society B*, 374(1788):20190215.
- 88 Pauly, D., 1995. Anecdotes and the shifting baseline syndrome of fisheries. *Trends in ecology and evolution*, 10(10), p.430.
- 89 Nash, R., 1970. The American invention of national parks. *American Quarterly*, 22(3), pp.726-735.
- 90 Cronon, W., 1996. The trouble with wilderness: or, getting back to the wrong nature. *Environmental history*, 1(1), pp.7-28.
- 91 Balding, M. and Williams, K.J. (2016). Plant blindness and the implications for plant conservation. *Conservation Biology* 30(6): 1192-1199.
- 92 Donlan, C.J., Berger, J., Bock, C.E., Bock, J.H., Burney, D.A., Estes, J.A., Foreman, D., Martin, P.S., Roemer, G.W., Smith, F.A., Soulé, M.E., Greene, H.W., 2006. Pleistocene rewilding: An optimistic agenda for twenty-first century conservation. *American Naturalist*. 168, 660-681.

often excluded large carnivores⁹¹ and megafauna⁹². This approach restricted opportunities for reintroductions and ignored indigenous peoples' historic presence, reinforcing a human-nature divide⁹³. Consequently, traditional land users have been marginalised, and cultures that coexisted with biodiverse, dynamic systems erased⁹⁴. In Europe and the UK, ISBS manifests differently because the Category V designation recognises NPs are anthropogenically-shaped. Nonetheless, planning tools like Landscape Character Assessments, guided by the European Landscape Convention⁹⁵, risk codifying static understandings of landscapes, preserving only the remaining species and limiting recognition of historical baselines or alternative ecological futures.

SBS also distorts understanding of species' ecological roles. 'Refugee species' surviving in degraded habitats are often misclassified as habitat specialists⁹⁶. For example, nightingale (*Luscinia megarhynchos*) and purple emperor butterfly (*Apatura iris*) were believed to need closed-canopy woodland until free roaming herbivores created 'wood pasture', a novel habitat (in contemporary terms), which caused populations of these species to surge at the Knepp Estate. This example has strengthened the evidence for Frans Vera's⁹⁷ model, which challenges long-held assumptions of 'closed-canopy forest baselines across Europe'⁹⁸ and instead proposed that large herbivores maintained open wood-pastures across Europe before human-driven megafaunal extinctions^{99,100}.

The risk of misreading species' ecology in conservation because of using contemporary baselines has been identified as potentially affecting a large number of species across Europe¹⁰¹ and its negative influence on European bison conservation (*Bison bonasus*)¹⁰² is now well recognised. More broadly, notions of 'pristine' nature are being re-evaluated through new understandings of the Anthropocene¹⁰³ and recognition of a deep-time history of human impacts on nature¹⁰⁴. The consequences of using ill-informed baselines to define conservation targets was recognised as early as the 1990s by Soule and Noss, who suggested 'the greatest impediment to nature restoration is our inability or unwillingness to imagine it'¹⁰⁵.

INSTITUTIONAL SBS:

Solutions to address cementing inappropriate baselines

Given the scale of ecological loss, targeted nature recovery programmes alone cannot counter personalised SBS. In protected areas, cross-sectoral policies must be restructured to support large-scale recovery, guided by science that redefines ecological knowledge. Conservation policy should move beyond 20th-century baselines toward forward-looking, restoration-driven frameworks. The following section presents a policy pathway for achieving this in the UK, using case studies to illustrate how transformative approaches can be implemented.

93 O'Neill, J., 2002. Wilderness, cultivation and appropriation. *Philosophy and Geography* 5, 35–50.

94 Salmón, E., 2017. No Word, in: Van Horn, G., Hausdoerffer, J. (Eds.), *Wildness: Relations of People and Place*. University of Chicago Press, Chicago, pp. 24–32.

95 Council of Europe. 2000. European Landscape Convention (ETS No. 176). <https://www.coe.int/en/web/landscape/the-european-landscape-convention>

96 Kerley, G.I., Kowalozky, R. and Cromsigt, J.P., 2012. Conservation implications of the refugee species concept and the European bison: king of the forest or refugee in a marginal habitat?. *Ecography*, 35(6), pp.519–529.

97 Vera, F., 2010. The shifting baseline syndrome in restoration ecology. In *Restoration and history* (pp. 116–128). Routledge.

98 Clements, F.E., 1936. Nature and structure of the climax. *Journal of ecology*, 24(1), pp.252–284.

99 Sandom, C.J., Ejrnæs, R., Hansen, M.D. and Svenning, J.C., 2014. High herbivore density associated with vegetation diversity in interglacial ecosystems. *Proceedings of the National Academy of Sciences*, 111(11), pp.4162–4167.

100 Søndergaard, S. A., Fløjgaard, C., Ejrnæs, R., & Svenning, J. C. 2025. Shifting baselines and the forgotten giants: integrating megafauna into plant community ecology. *Oikos*, e11134.

101 <https://studenttheses.uu.nl/handle/20.500.12932/38669>

102 Kuemmerle, T., Hickler, T., Olofsson, J., Schurgers, G. and Radeloff, V.C., 2012. Refugee species: which historic baseline should inform conservation planning?. *Diversity and Distributions*, 18(12), pp.1258–1261.

103 Thomas, C. D. 2022. Maintaining global biodiversity by developing a sustainable Anthropocene food production system. *Anthropocene Review*, 9(1), 3–16.

104 Ellis, E.C., Gauthier, N., Klein Goldewijk, K., Bliege Bird, R., Boivin, N., Díaz, S., Fuller, D.Q., Gill, J.L., Kaplan, J.O., Kingston, N. and Locke, H., 2021. People have shaped most of terrestrial nature for at least 12,000 years. *Proceedings of the National Academy of Sciences*, 118(17), p.e2023483118

105 Soule, M. and Noss, R. (1998). Complementary goals for continental conservation. *Wild Earth* 8(Fall): 39–64.

Policy pathway recommendation 6: Define ambitious nature recovery targets for National Parks using scientifically informed spatial analogues and deep-time baselines to set legal targets that will significantly increase the quality and quantity of more ecologically intact ecosystems.

To drive nature recovery, the UK Government must adopt ambitious targets. We propose the UK NPs offer a discrete geography to explore the potential for nature recovery that uses both spatial and temporal analogues. The [Scottish Rewilding Alliance](#), a coalition of 20+ organisations, has petitioned the government to designate Scotland as the world's first 'Rewilding Nation'¹⁰⁶. The initiative aims to restore historically wooded uplands, removed by burning and grazing. Drawing comparisons to similar bioclimatic regions like Alaska and Norway, it challenges the assumption that open moorlands should be naturally dominant. By reintroducing lost habitats, these efforts challenge ecological amnesia and redefine concepts of ecological complexity.

Such commitments must be underpinned by legally binding restoration commitments. The [Environment Act \(2021\)](#) sets targets to halt species decline by 2030 and increase abundance by 10% by 2042 (from 2030 levels). Analysis has shown this delivers minimal gains from 2022 levels, risking institutionalising degraded baselines¹⁰⁷. In contrast, the EU Nature Restoration Law mandates restoring 30% of degraded ecosystems by 2030 and 90% by 2050¹⁰⁸. This comparison highlights the need for stronger UK legislation to underpin meaningful nature recovery, delivered through an integrated strategy which places NPs (and other protected areas) at the centre¹⁰⁹.

Legal tools must also support more ambitious species reintroductions. Under Article 8(f) of the [Convention on Biological Diversity](#), European states should already be going beyond species protection and reintroducing locally extinct species that restore ecological functions¹¹⁰. However, inconsistent legal frameworks and classification systems mean these obligations are routinely overlooked. Reforming species designations is key, as shown by the recent assignation of European Protected Species status to beaver in Scotland and England, which is now enabling large-scale, wild releases¹¹¹. While feasibility studies are underway for species like Eurasian lynx (*Lynx lynx*) and elk (*Alces alces*), legal protection will not be considered before trials and monitoring have occurred.

Policy pathway recommendation 7: Develop a National Park Network that integrates with other nature networks and enshrines National Parks as core areas for biodiversity that are connected by corridors.

To avoid severely undermining nature recovery aspirations, protected areas must avoid becoming isolated ecological islands and be connected via wildlife corridors. The widely acclaimed Lawton Principles, 'more, bigger, better, and joined up' were adopted by the UK Government in 2011 to ensure cross-sectoral commitments to this approach¹¹². The Wildland Network in North America demonstrates how transboundary landscape-scale planning for ecological connectivity can be achieved across international borders¹¹³.

In parts of the UK, similar ambitions have arisen with the [Nature Recovery Network](#) and [Local Nature Recovery Strategies](#), and [Landscape Recovery](#) formalised in policy. Notably, NP boundaries have been extended to improve protected area connectivity, such as the addition of 188 square miles added (mostly) to the Yorkshire Dales NP to connect it to the Lake District NP in 2016¹¹⁴.

106 Scottish Rewilding Alliance. 2024 Vision of hope: Pathway to Rewilding Nation presented to Scottish Government. Available at: <https://www.rewild.scot/news/31/1/Vision-of-hope-pathway-to-Rewilding-Nation-presented-to-Scottish-Government>

107 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.

108 European Commission (2024). Nature Restoration Law. https://environment.ec.europa.eu/topics/nature-and-biodiversity/nature-restoration-law_en

109 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.

110 Trouwborst, A. and Svenning, J.C., 2022. Megafauna restoration as a legal obligation: International biodiversity law and the rehabilitation of large mammals in Europe. *Review of European, Comparative & International Environmental Law*, 31(2), pp.182-198.

111 <https://naturallengland.blog.gov.uk/2025/02/28/beaver-wild-release-a-milestone-for-nature-recovery-in-england/>

112 <https://webarchive.nationalarchives.gov.uk/ukgwa/20130402170324/http://archive.defra.gov.uk/environment/biodiversity/documents/201009space-for-nature.pdf>

113 Noss, R.F., 1994, January. Building a wilderness recovery network. In *The George Wright Forum* (Vol. 11, No. 4, pp. 17-40). George Wright Society.

114 <https://www.gov.uk/government/publications/lake-district-national-park-maps-of-confirmed-boundary-changes>

These efforts demonstrate progress toward ambitious protected area management. Much remains to be done however, to embed national-scale nature recovery into formal strategies and to create more physical linkages among most UK NPs.

Policy pathway recommendation 8: Establish Nature Innovation Areas to trial bold experimental approaches to nature recovery, restoration and rewilding

Reversing SBS demands scientifically informed innovation in nature recovery, which is currently restricted by a risk-averse policy and legislative environment. Focus should shift more strongly to restoring processes like species recovery, ecosystem connectivity, and natural disturbance regimes¹¹⁵, rather than preserving static landscapes. Without a clear, strategic, and ambitious government stance embracing ecological dynamism and species reintroduction, the UK's biodiversity will continue to decline.

There is strong public support for a more ambitious approach to nature recovery¹¹⁶. Without leadership, fragmented, unlawful or covert rewilding may occur, risking social legitimacy and ecological goals¹¹⁷. Establishing Nature Innovation Areas¹¹⁸ within or adjacent to NPs could enable place-based creativity by relaxing policies currently upholding degraded baselines. These areas could then test new restoration methods, governance models, and help reset public and institutional expectations towards ecologically functional landscapes. This builds on the Landscape Review's suggestion to explore opportunities for new designated areas or extending existing sites¹¹⁹.

INSTITUTIONAL SBS:

Issues of stakeholder involvement in UK NPs

In the UK, conservation policy has often focused on preserving relatively recent cultural landscapes and their associated management systems, which can inadvertently¹²⁰ marginalise deeper or alternative historical baselines¹²¹. Cultural heritage is not monolithic; its value differs across and within communities¹²². SBS not only distorts perceptions of ecological change but also reshapes notions of cultural significance, often foregrounding certain heritage layers while neglecting others¹²³. This can result in what might be termed 'unjust baselines', which overlook deeper, more diverse histories embedded within landscapes and also create challenges for engaging diverse stakeholders.

In some UK NPs, a small number of landowners hold disproportionate influence over decisions related to land use, often because they are managed by a small elite for sporting purposes¹²⁴. This can include resistance to afforestation¹²⁵, peatland restoration or species reintroduction¹²⁶.

115 Perino, A., Pereira, H.M., Navarro, L.M., Fernández, N., Bullock, J.M., Ceaşu, S., Cortés-Avizanda, A., van Klink, R., Kuemmerle, T., Lomba, A. and Pe'er, G., 2019. Rewilding complex ecosystems. *Science*, 364(6438), p.eaav5570.

116 Glentworth, J., Gilchrist, A. and Avery, R., 2024. The place for people in rewilding. *Conservation Biology*, 38(6), p.e14318.

117 Glentworth, J., Carey, E., Gilchrist, A., & Thornhill, I. (In Press) What can we learn from the UKs guerrilla rewilding? *Oryx*.

118 Jepson, P.R., 2022. To capitalise on the Decade of Ecosystem Restoration, we need institutional redesign to empower advances in restoration ecology and rewilding. *People and Nature*, 4(6), pp.1404-1413.

120 Lorimer, J., Sandom, C., Jepson, P., Doughty, C., Barua, M. and Kirby, K.J., 2015. Rewilding: science, practice, and politics. *Annual Review of Environment and Resources*, 40(1), pp.39-62.

121 Drenthen, M., 2018. Rewilding in cultural layered landscapes. *Environmental Values*, 27(4), pp.325-330.

122 Spennemann, D.H., 2022. The shifting baseline syndrome and generational amnesia in heritage studies. *Heritage*, 5(3), pp.2007-2027.

123 Alleway, H.K., Klein, E.S., Cameron, L., Douglass, K., Govia, I., Guell, C., Lim, M., Robin, L. and Thurstan, R.H., 2023. The shifting baseline syndrome as a connective concept for more informed and just responses to global environmental change. *People and Nature*, 5(3), pp.885-896.

124 Hetherington, P., 2015. *Whose Land is Our Land?: The Use and Abuse of Britain's Forgotten Acres*. Policy Press.

125 Fischer, A. and Marshall, K., 2010. Framing the landscape: discourses of woodland restoration and moorland management in Scotland. *Journal of Rural Studies*, 26(2), pp.185-193.

126 Glentworth, J.W., 2022. *Can Rewilding Work for Everyone?: Navigating Actor Perspectives Towards Upland Rewilding* (Doctoral dissertation, The University of Manchester (United Kingdom))

As a result, conservation outcomes are often shaped by a narrow set of interests, even when ecological or public interests may call for change. This imbalance fosters deep political divides and stakeholder conflicts.

These tensions are rooted in a broader historical context. In England, particularly in upland areas, land use disputes are entangled with issues of class, exclusion, and access¹²⁷. The Kinder Scout Mass Trespass of 1932, led by working-class ramblers protesting limited access to privately owned moorlands, is a seminal example¹²⁸. This act of protest laid the groundwork for expanded public access, including the NPs movement and later, the Countryside and Rights of Way Act 2000. Yet despite such reforms, the structural inequalities that underpin land ownership and control remain largely unchanged.

These debates highlight that SBS is not only an ecological or psychological issue but also a political one; deeply bound up with questions of who gets to define what is “natural,” “traditional,” or worthy of conservation, which manifest in complex debates over the future of Britain’s most treasured landscapes.

INSTITUTIONAL SBS:

Solutions to address stakeholder involvement in UK NPs

A final component of reversing ISBS in protected areas is ensuring that policies enshrine participatory and inclusive nature experiences in their core remit. Critically, the policy arena needs to explicitly embed the importance of ensuring these experiences help to reconnect people to more ecologically complex and resilient ecosystems.

Policy Pathway Recommendation 9: Revisit the National Park purposes to explicitly state their core remit in both achieving nature recovery and reconnecting people to restored nature

The UK Government has committed to revising the NP purposes to prioritise nature recovery¹²⁹. This must address current management practices – such as intensive sheep grazing and moorland burning – that degrade nature across large areas of UK NPs. Conflicting designations also present challenges. For example, the Lake District’s UNESCO World Heritage status has been criticised for preserving cultural landscapes “in aspic,” limiting ecological change and future-focused restoration¹³⁰. Such constraints not only hinder nature recovery but restrict the types of experiences visitors can have, maintaining simplified landscapes rather than enabling engagement with more ecologically complex systems. Nonetheless, as policy shifts towards nature recovery, the NPs’ dual purposes that embed the importance of public access, must be retained. While historically focused on scenic beauty, their evolving role must balance nature and access – specifically, fostering public connection to more complex, resilient ecosystems. Encouragingly, some examples already exist. The [Trees for Life](#) project in Scotland demonstrates how family-friendly, immersive education can reconnect people with regenerating nature¹³¹. These activities help reverse SBS by blending experience with ecological understanding. Embedding such practices more widely through revised NP purposes will be vital in combating ISBS and ensuring NPs lead by example in both nature recovery and inclusive public engagement within recovering landscapes.

127 Reed, M. (2015). Class and conflict in rural England: some reflections on a debate. In *Class, Conflict and Protest in the English Countryside, 1700-1880* (pp. 1-28). Routledge.

128 Waterman, T. (2022). Democracy and trespass: Political dimensions of landscape access. In *The Landscape of Utopia* (pp. 130-138). Routledge.

129 <https://defraenvironment.blog.gov.uk/2024/12/16/75th-anniversary-of-the-national-parks-act-new-legislation-to-ensure-protected-landscapes-are-fit-for-the-future/>

130 <https://www.newstatesman.com/culture/nature/2017/07/sheepwrecked-how-lake-district-shows-world-heritages-flaws>

131 Papworth, S.K., Rist, J., Coad, L. and Milner-Gulland, E.J., 2009. Evidence for shifting baseline syndrome in conservation. *Conservation letters*, 2(2), pp.93-100.

Policy pathway recommendation 10: Establish a National Park Nature Recovery Peoples Assembly that provides a structured forum for national level strategies.

To support effective nature recovery, it is vital to integrate diverse knowledge systems into conservation, recognising that views on practices like rewilding are often more nuanced than polarised debates suggest¹³². Studies beyond conservation show decision-making improves when power is decentralised and diverse actors are involved¹³³. Neuroscience and organisational psychology research demonstrate heterogeneous groups outperform homogenous ones in problem-solving¹³⁴, for instance, racially diverse juries deliberate more thoroughly¹³⁵ and gender-diverse boards yield better outcomes¹³⁶. Currently however, SBS hampers local knowledge integration due to limited exposure to ecologically and socially diverse systems, and the influence of ‘unjust baselines’ that restrict engagement with nature recovery.

The People’s Assembly for Nature offers a valuable example of how collective deliberation can guide nature recovery in NPs. As a UK-wide citizens’ assembly, the scheme brought together a representative group to make recommendations on tackling the biodiversity crisis. Relatedly, the People’s Plan for Nature calls for prioritising nature in all decisions – an approach that closely aligns with the strategic imperative faced by NPs. Successful, locally grounded collaborations already exist. Partnerships like the Cairngorms Connect seek to bring together forestry, rewilding and community groups to balance ecological, social and economic objectives¹³⁷.

Replicating these models in NPs, citizens could help to redefine ambitions to help balance priorities for nature recovery with cultural, agricultural, and recreational uses, democratising decision-making in some of the UK’s most valued landscapes. We therefore propose a National Park Nature Recovery People’s Assembly to inform nature restoration strategies through a representative cross-section of the public alongside experts and policymakers. Knowledge transfer and shared learning should collectively prioritise addressing PSBS and ISBS as a central task. This aligns with the Landscape Review’s call to improve governance of NPs and National Landscapes and their coordination with other national assets¹³⁸.

132 Wynne-Jones, S., Strouts, G. and Holmes, G., 2018. Abandoning or reimagining a cultural heartland? Understanding and responding to rewilding conflicts in Wales—the case of the Cambrian Wildwood. *Environmental Values*, 27(4), pp.377-403.

133 Critchlow, H. 2022. *Joined-up thinking: the science of collective intelligence and its power to change our lives*. Hachette UK.

134 *ibid*

135 Sommers, S. R. 2006. On racial diversity and group decision making: identifying multiple effects of racial composition on jury deliberations. *Journal of personality and social psychology*, 90(4), 597.

136 Adams, R. B., & Ferreira, D. (2009). Women in the boardroom and their impact on governance and performance. *Journal of financial economics*, 94(2), 291-309.

137 https://www.endangeredlandscapes.org/wp-content/uploads/2020/03/Cairngorms_web.pdf

138 Glover, J., 2019, *Landscapes Review: Final Report*. Available at: www.defra.gov.uk

Conclusion: Delivering a policy pathway for NPs as instruments to address SBS

Reversing SBS is essential for nature recovery in the UK. We have demonstrated that SBS affects both individuals, who may only know the degraded landscapes of their lifetime, and institutions, where conceptualisations of nature and landscape are often rooted in contemporary, already diminished baselines, leading to a lack of ambitious policies, targets and management frameworks. We have argued that addressing SBS is a pressing issue that requires coordinated efforts that acknowledge the deep ecological changes across generations and ensure that both short-term actions and long-term systemic shifts are enacted in combination. NPs represent a vital opportunity to address SBS in the UK. Ecologically, they are key to achieving the 30x30 conservation target, while sociologically, their role in providing public access to nature fosters deep, place-based connections cherished by the British public. Harnessing their unique position is essential for driving meaningful and lasting nature recovery.

The UK Government has committed to restoring nature at scale by 2030 and to a future where “people live in harmony with nature” by 2050¹³⁹. Although significant progress has been made in identifying the ecological targets and actions needed to achieve these goals, there needs to be much clearer consideration from decision-makers about the social progress that is needed for nature recovery to be achieved. A significant part of this is recognising the role of SBS in influencing how individuals and institutions perceive nature and are aware of the imperative for nature recovery. In the UK, NPs are an ideal vehicle for redefining how people, projects and policies relate and respond to nature, which can then act as exemplars for the roll-out of harmonious human-nature relationships across all landscapes in Britain.

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