Environmental wellbeing: a concept and principles for research, policy and action

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Environmental wellbeing: a concept and principles for research, policy and action

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ABSTRACT

Environmental wellbeing is often referred to in academic literature but seldom defined. This article provides two contributions to knowledge: (1) developing an integrated concept of environmental wellbeing, positioning it as a locally situated counterpart to notions of "planetary health" and "human wellbeing", and (2) outlining practical principles for its operationalisation. Building on concepts of environmental justice, this article begins with novel theorisation of environmental wellbeing as a (natural and social) state in which humans and non-humans, both as individuals and as parts of larger ecosystems, can thrive within an equitable balancing of resources and uses. Nevertheless, such balancing needs to account for, and counter, the uneven causation of harms as well as the uneven distribution of benefits, while recognising that advances towards environmental wellbeing should be pragmatically achievable within an already severely damaged natural world. The article addresses these challenges by offering practical principles for operationalising environmental wellbeing within local decision-making. Environmental wellbeing is thus articulated here not only as a theorised desirable state but also as a practical tool for advocacy and policy development.

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Introduction

Increasing attention is being given to the need to achieve a state of being in which humans and nonhuman species can mutually thrive in relationships that have long-term sustainability (Rupprecht et al. 2020). This quest requires shared foundational concepts that can guide practical action, not only at an international or national level but also at a local scale. This article responds to a gap at the local scale, putting forward an integrated concept of local environmental wellbeing and suggesting how it may be operationalised. It offers a local counterpart to Elo et al.'s concept of planetary wellbeing (2024, 1–2), responding to their call for "a paradigm shift in how human and nonhuman wellbeing are perceived and approached" and to Steffen et al.'s finding that environmental harms are "driven by a small fraction of the human population" (Steffen et al. 2015).

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Notions such as planetary health (Horton et al. 2014; Whitmee et al. 2015), planetary wellbeing (Elo et al. 2024; Kortetmäki et al. 2021), the "safe operating space for humanity" and the idea of planetary boundaries (K. Richardson et al. 2023; Rockström et al. 2009), gesture towards the need to conceptualise environmental wellbeing on a global scale. The United Nations' Sustainable Development Goals[1] offer a generalised approach to human thriving. Similarly, the conceptual framework developed by the Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES) (Díaz et al. 2015) offers a supranational template based on an understanding of the interrelationships of humans and nonhumans and recognition of diverse knowledge systems, linking "conservation and sustainable use of biodiversity, long-term human well-being and sustainable development".

There is also a need, however, to conceptualise planetary wellbeing at a local scale, acknowledging the situated experiences of people and the more-than-human world (Whatmore 2006) in specific locations and circumstances. Planners and policymakers require concepts and operational principles that enable them to balance *in situ* the competing and shared interests of humans and nonhumans in ways that are equitable and sustainable within a local or regional context (Rogers et al. 2012). Such framings also need to acknowledge the constraints on decision-makers who have limited time, budgets, and capacities for research.

This article explains the utility of environmental wellbeing as a conceptual and practical framing that can draw together human and more-than-human interests at a situated scale while also addressing the profound inequities that have shaped human settlements, with particular regard to the post-industrial global north. Our axiological standpoint is that landscapes and societies formed through processes of environmental damage cannot become productive of wellbeing unless action is taken to remediate the causes and legacies of environmental harm. Environmental wellbeing is thus an issue of environmental and social justice (Bullard, Agyeman, and Evans 2003) which must address both human rights and the (potential or implied) rights of nature (Díaz et al. 2015; Rawson and Mansfield 2018). It must acknowledge that nonhuman nature does not always benefit all people (Daw et al. 2011; Díaz et al. 2015) while actively resisting the perpetration of further harm by more privileged sections of human society (Chatterton et al. 2016; Steffen et al. 2015). At the same time the "hybrid and multiform" identities, ecologies and relationships that are often black-boxed in the word "nature" need to be recognised and valued in their own right (Escobar 1999, 2).

Stemming from earlier work exploring academic evidence for four "domains of wellbeing" (Crisp et al. 2023) this paper investigates how notions of environmental wellbeing and justice can be extended and implemented to include the more-than-human at a local or regional scale in ways that are compatible with planetary wellbeing. It seeks to delineate a concept of environmental wellbeing that addresses inequities both within and arising from human society and activity. It does so in recognition of the need for concepts, frameworks and principles that not only allow scholars to describe and investigate the social and environmental effects of human activity, but also provide routes for translation into local policymaking, decision-making and governance.

The article begins with an exploration of relevant literature, with a particular focus on literature from the global north with its histories of industrial development and environmental degradation, compounded by the social inequities that have been their

consequence. It moves on to propose an integrated concept of environmental wellbeing, discussing its utility and explaining its distinction from more general notions of thriving or flourishing. Finally, it considers how such a concept might be further developed and operationalised in practice. While the article is particularly relevant to the post-industrial global north, the concept and principles of operation will become increasingly appropriate to territories in the global south that have experienced the environmental degradation associated with rapid industrialisation.

The challenge of conceptualising environmental wellbeing

Types of wellbeing

Our inquiry arose out of a previous examination of the evidence for four "domains of wellbeing" – social, economic, democratic and environmental (Crisp et al. 2023). In the course of this review it became evident that "environmental wellbeing" is not a clearly defined concept within the academic literature. The research team had to use proxies and combinations of terms in their searches to find literature dealing with the topics of interest, including pollution, access to green and blue space, and the benefits and harms associated with the built environment.

This conundrum of definition needs to be considered in the context of a growing corpus of literature that explores ideas of environmental flourishing at a global scale. Planetary health, for example, is defined as encompassing "a vision for a planet that nourishes and sustains the diversity of life with which we coexist and on which we depend" and "a philosophy for living [that] emphasises people, not diseases, and equity, not the creation of unjust societies" (Horton et al. 2014). While planetary health emphasises the human perspective, the more recent notion of planetary wellbeing consciously moves towards decentring the human. Elo et al. (2024, 1–2) describe it as a concept that "insists that the planet's life-sustaining systems remain sufficiently undamaged by human activities so as to allow all species and populations to survive and thrive". It is situated in a recognition that human actions "threaten to cause irreversible changes in the Earth system" (p9) and that the causes of these harms are "driven by a small fraction of the human population" (Steffen et al. 2015). The development of the concept of planetary wellbeing has been informed by the work by the Stockholm Resilience Centre over the last 15 years. This has sought to define the "planetary boundaries" within which humans can survive safely and to identify the consequences of transgressing them (Rockström et al. 2009). This work was updated in 2015 and most recently in 2023, with the latest iteration showing that six of nine boundaries had been exceeded (K. Richardson et al. 2023).

The planetary boundaries approach has, however, been criticised for its emphasis on natural science to the exclusion of issues of global and social equity (Biermann and Kim 2020). Such critiques have informed the development of approaches such as "doughnut economics" (Raworth 2017) which attempt to combine ecological and social equity, turning the idea of a "safe operating space" into a "doughnut" in which ecological limits on the outside are complemented by limits to social inequality on the inside. Separately, the concept of environmental justice seeks to ground ideas of sustainability within concepts of social equity, noting especially the racialised nature of environmental

and social harms, which impact particularly unjustly on people of colour. This work focuses especially on the unequal distribution of environmental benefits and harms (Bullard, Agyeman, and Evans 2003; Bulkeley, Edwards, and Fuller 2014; Evans and Phelan 2016; Schlosberg and Collins 2014) and the need for a "just transition" that encompasses distributional, procedural and restorative forms of justice (McCauley and Heffron 2018). Significantly, the environmental justice literature, and the histories of activism that gave rise to it, situate the "environment" not in concepts of "wilderness" but in the everyday spaces where people "live, work and play" (Novotny 2000).

The task of defining environmental wellbeing also needs to be understood in the context of a multi-millennium lineage of thinking and theorising around the concept of "human wellbeing", which has evolved to encompass myriad meanings. Its roots can be traced back to Aristotle's (2004) notion of *eudaimonia* (or flourishing), which refers to a state of living in accord with and nurturing the dispositions most natural to one's species.[2] Prominent modern contributions include Ryff's (1989) six-dimensional model of psychological wellbeing, which suggests that wellbeing does not relate only to the absence of negative affects but also captures the presence of a range of positive psychological functionings. Relatedly, Diener et al. (1999) conceptualise subjective wellbeing as comprising life satisfaction, positive and negative affect (pleasure and displeasure) – which are continuously shaped by biological and sociological factors. Sen's (1993) conceptualisation of wellbeing in terms of "functionings" and "capabilities" provides another notable contribution. Functionings encompass the "*n*-tuple" possibilities and permutations of doing and being that constitute human life, ranging from the more universal, such as being adequately nourished, to more culturally specific or subjectively valued activities such as taking part in sport. Capabilities refer to individuals' opportunities and freedoms to achieve combinations of functioning. Human wellbeing, according to Sen, is ultimately concerned with the capabilities individuals possess to realise combinations of functionings which are meaningful and valuable to them.

Nevertheless, while the respective conceptual territories around "planetary wellbeing" and "human wellbeing" are increasingly rich, it remains challenging to find cross-fertilising concepts that bring natural and built environment concerns and the wellbeing of the more-than-human into dialogue with the biological, psychological and sociological facets of human wellbeing, and that can also be readily operationalised in practice at a local scale. The IPBES framework (Díaz et al. 2015), for example, despite its comprehensive approach to ecology, has a relatively limited framing of human wellbeing, which is briefly described as a combination of individuals' physical and mental health and "the ethical and ecologically sustainable utilisation of nature" (7). Raworth's work on doughnut economics is an attempt to bridge this gap and is designed to be translatable into practice, and cities such as Amsterdam have attempted to do so (Khmara and Kronenberg 2023).

"Environmental wellbeing" in published literature

Moreover, our review revealed that "environmental wellbeing" is not a clearly defined concept within the international academic literature. A Scopus search for articles featuring "environmental wellbeing" or "environmental well-being" in titles, abstracts or keywords within the ten years to 2024 (with no geographical restriction) delivered 684 results, while

a more focused search on UK-based research since 2017 yielded 95 results. However, both searches covered a disparate set of issues – the most-cited papers being a study of the circular economy (Murray, Skene, and Haynes 2017) and research on flood risk management in China (Chan et al. 2018). We draw on both sets of literature in this article, although the most relevant material arose from the narrower search. Within the literature "environmental wellbeing" is often a catch-all term deployed to recognise issues such as the "quality" of the natural environment or the importance of mitigating the risks of ecological harms caused by pollution or waste, but the term is seldom defined and is never the object of substantial theoretical attention (for examples, see Ahammed et al. 2024; Mohamed et al. 2023; Tunçelli and Erkan 2024).

Having said that, a small cluster of articles ventured into relevant theoretical terrain. A brief editorial in the Chinese Medical Journal (Wang et al. 2023) suggests adding environmental wellbeing to physical, mental and social wellbeing as indicators of human health, describing environmental wellbeing as "distinguished by appropriate interaction between humans and the environment": "Humans need to realize that environmental health is a critical component of human health, respect the boundaries of the planet that we all live on, and understand how to be kind to nature" (2396). Breslow et al. (2016) develop a conceptual framework around "human wellbeing", which situates notions of "capabilities" to pursue meaningful goals within the limits of "connections" with other individuals and communities and with sustainable environmental "conditions" necessary for maintaining the health of all organic life. In this view, ways of doing and being can only be permissible insofar as they do not impede on the cumulative wellbeings of other human and nonhuman individuals and communities. Relatedly, Lawrance et al. (2022) identify the different layers that determine individual mental health and wellbeing, which include personal, community, socioeconomic, political and climate factors. Saliently, the authors suggest that these determining layers continuously change across multiple spatial and temporal scales, with attendant effects on wellbeing (see also Yose, Thondhlana, and Fraser 2023). These changes may occur, for example, across the individual life course; they may constitute changes in the frequency, magnitude and/or location of environmental harms; or they may occur because of changes in the socio-spatial (re-)distribution of natural resources.

Several other articles provided conceptual material for exploring the uneven social and spatial distribution of the resources that may constitute a positive state of "environmental wellbeing", as well as the (human-made) environmental burdens which militate against it. Notably, Mullin et al. (2018) discuss disparities in the distribution of "natural capital" between different English regions – i.e. the total stocks of natural resources, environmental assets and ecosystem services critical to human wellbeing. Badland and Pearce (2019, 95) investigate the "urban liveability" of natural and built environments, detailing a range of "exposures that can amplify or dampen opportunities" for good health and wellbeing among those residing in urban locations. In doing so they signal the role of inorganic and manufactured matter (such as roads and particulates in traffic exhaust fumes) in influencing the wellbeing of the living world. Relatedly, Mitchell, Norman, and Mullin (2015) explore the "disease burden" shouldered by low-income populations in areas of high levels of air pollution, which inequitably harm their physical health. These concepts all aided our own efforts to construct a theoretically competent and operationalisable concept of "environmental wellbeing", which is where we now turn.

From concept to practice

Our earlier work (Crisp et al. 2023) considered human wellbeing at a local scale within four domains: social, economic, democratic and environmental. It thus examined environmental wellbeing as a sub-category of human wellbeing, implicitly suggesting it should be balanced against other needs. Ideas of planetary wellbeing or planetary boundaries, by contrast, are global meta-categories within which it is assumed other needs must be balanced, including the needs of nonhuman species. In this section we aim to bring together the local insights of our earlier work with the more-than-human standpoint offered by the idea of planetary wellbeing. Environmental wellbeing, we suggest, enables us to think about planetary wellbeing at a local or regional scale. It recognises that at the scale of human settlements, wellbeing is a result of local negotiations and trade-offs. It also acknowledges the disproportionate impact that humans have on the wellbeing of all species in urbanised contexts.

In positing environmental wellbeing as a localised counterpart to planetary wellbeing, there is a need to justify the focus on locality and to show how such an approach is distinct from environmental justice. In focusing on locality, we bring an awareness that environmental wellbeing is place-sensitive: it relates to the state of wellbeing experienced by the human or nonhuman subject within the specific affordances of a locality. The term "affordance" relates to the complementarity between an individual and their environment (Gibson 1979; Roe and Aspinall 2011); it describes the capacities inherent in an entity to enable or permit different actions and experiences – such as the opportunities for play that a tree might offer a child (Heft 1988). Localities have different affordances: wellbeing in relation to the natural and built environment is experienced differently between (for example) hot and dry or cold and wet places; densely built cities or sprawling suburbs; walkable neighbourhoods and those that privilege cars; places where prevailing winds disperse atmospheric pollution and those susceptible to smog. Notions of planetary wellbeing smooth over such distinctions and so have limited practical use in spatial planning and policymaking.

Similarly, environmental wellbeing encompasses more than environmental justice, which combines "notions of environmental sustainability and everyday environments with demands for social justice" (Schlosberg and Collins 2014, 361). Environmental justice relates to the fact that certain groups suffer disproportionately from environmental harms and have more limited access to the goods associated with environmental wellbeing. The literature on environmental justice has origins in the disproportionate impact of toxic waste on people of colour in the United States, and the struggles of Indigenous land rights movements (ibid, 359-360). This is a foundational contribution and we recognise it in formulating our approach. But it does not directly attempt to define a good environmental quality of life and pays limited attention to the wellbeing of the more-than-human world. Bulkeley, Edwards, and Fuller (2014), for example, use a governance lens to discuss climate justice in terms of balancing human rights and responsibilities at an urban scale, but nonhuman species are absent from their discussion. While the literature on environmental justice is invaluable as a lens that focuses attention on equity, in our view it remains overly anthropocentric.

Table 1 below shows how environmental wellbeing, as we understand it, relates to other key relevant concepts and where we see its utility.

Table 1. Key concepts of wellbeing encompassing human and nonhuman actors.

Concept	Main focus	Conceptual level	Spatial scale	Key text
Planetary health	Human health and social justice within thriving ecosystems	Overarching framework for human health	Global	Horton et al. (2014)
Planetary wellbeing	Human wellbeing as part of the wellbeing of all species	Overarching framework for human and more-than-human wellbeing	Global	Elo et al. (2024), Kortetmäki et al. (2021)
Planetary boundaries	A "safe operating space for humanity"	Overarching framework for human wellbeing within environmental contexts	Global	Rockström et al. (2009)
IBPES framework for biodiversity	Ecosystem health as a foundation for human health	Overarching framework for human care of nonhuman species	Global	Díaz et al. (2015)
Domains of wellbeing	Human wellbeing and equality	Environmental wellbeing is one of four sub-domains of human wellbeing	Local or regional	Crisp et al. (2023)
Environmental wellbeing (as defined here)	Co-constituted, situated wellbeing of humans and nonhuman species	Overarching concept covering equitable human and more-than-human wellbeing	Local or regional, with a focus on situated decision-making	

Articulating and achieving environmental wellbeing

For the concept of environmental wellbeing to have the utility we envisage, a clearer definition is required than has been offered to date. We therefore propose the following definition and operating principles:

Environmental wellbeing is a co-constituted state in which humans and nonhumans, both as individuals and as parts of larger ecosystems and communities (which also involve relationships with inorganic matter), can thrive within an equitable balancing of resources and uses within their local built and natural environments. This requires:

(a) An acknowledgement of the existing state of local environments as heavily modified by humans, vulnerable to ecological and social harms and characterised by injustices
(b) Recognition that the more-than-human world is not only foundational to human wellbeing, but has its own capacities for wellbeing that are interdependent with (but also independent of) those of humans
(c) Recognition that both wellbeing and the conditions that give rise to it are dynamic and fluid, locally differentiated, and subject to negotiation and contestation, which means that wellbeing must always be understood as contingent
(d) Situated action both to reduce social and ecological harms and to enhance the quality of existence for both human and nonhuman species

We expand on these operating principles below, before suggesting how a concept of environmental wellbeing might begin to be operationalised.

A starting point of an ecologically devastated world

Concepts of environmental wellbeing must pragmatically address the world as already severely harmed, within the context that one seeks to examine or address. For this reason, while concepts of the unity of all living things rooted in Indigenous thinking such as *buen vivir* (Escobar 1999, 2015) offer important insights into equitable and

sustainable human and nonhuman relationships, they are unlikely to be readily operationalised within the highly degraded ecosystems and urbanised societies of the post-industrial global north. It should be noted that *buen vivir* itself is a contested concept that has been viewed as "co-opted by the state using conventional views of development" (Merino 2016) and its use in the global north could be regarded as a further example of cultural appropriation (Altmann 2020). Yet it is important to find ways to apply comparable ideas of environmental wellbeing in the urbanised global north, offering signposts to how relationships between the human and more-than-human worlds may be reconnected both as enmeshed "matters of concern" (Latour 2005) and as integral to human wellbeing (McEwan et al. 2020; M. Richardson and Butler 2022) without reinforcing social inequalities. In a pillaged world, this may begin with "modest possibilities of partial recuperation and getting on together" (Haraway 2016, 10) at local scales. We thus begin from an acknowledgement that environmental wellbeing is always already compromised by the damages and inequities characteristic of industrial and post-industrial development and that its achievement requires a significant rearrangement of the interdependencies between privileged and subaltern humans, and between humans and nonhuman species.

Recognition of the more-than-human

Our understanding of wellbeing follows Maller (2021) in challenging the anthropocentric view of "nature" as separate from or subordinate to human life. We include in our thinking here not only living species but also inorganic matter such as landscape features or atmospheric elements, recognising that an ecological perspective needs to respect the "multiple intermingling of human and nonhuman entities" (Farías 2011, 369) and acknowledge that humans and nonhumans are "entangled together in ways that cofabricate worlds, spaces, and encounters" (Bell, Instone, and Mee 2018, 136). Humans are the product of relations between a range of biological and material or technological actors (Andrews 2019) and themselves act as microbiomes that host other organisms (Robinson and Jorgensen 2020). Elo's conceptualisation of planetary health (Elo et al. 2024) and the IBPES framework for biodiversity (Díaz et al. 2015) both make the case that the wellbeing of the more-than-human world is foundational to the wellbeing of humans and that the wellbeing of both is co-constituted – as Elo et al. (2024, 1) puts it, "we are all different forms and shapes of the life that once emerged".

Recognition of contingency

Given that our concept of environmental wellbeing is locally situated, it is important to recognise that it is temporally, spatially and politically contingent. Wellbeing is generated from individuals' and communities' interactions with and within complex systems of ecology, governance, and human and nonhuman activities. Without immersing ourselves in the rich literature on complex systems here, it is sufficient to note that the characteristics of complex systems include co-evolution and adaptation; fuzzy boundaries; a dynamic interaction between stability and change; multiple diverse components and interactions; feedback loops that reinforce or counteract trends; the impossibility of controlling systems by isolating variables; and path dependency, meaning that current and future states emerge from and are influenced by what has happened previously (Grin, Rotmans, and Schot 2010). Human society is structured by institutions (North 1991) which determine the "rules of the game" at any given time and are driven by their

own "institutional logics" (Thornton, Ocasio, and Lounsbury 2012) and reinforced or undermined by the "institutional work" of those who operate within them (Lawrence and Suddaby 2006). In policy terms, environmental wellbeing can thus be described as a "wicked problem" (Rittel and Webber 1973) that is not amenable to simple policy solutions. In such circumstances environmental wellbeing functions as a guiding and organising principle rather than as a finalised objective.

Reduction of harm and improved quality of life

Our definition recognises that at a local scale, thriving people and ecosystems must offer a state of collective flourishing while addressing and reducing the effects of environmental harms. Given that such harms are both consequences and drivers of inequitable social and economic systems, environmental wellbeing must encompass social and economic justice as well as healthy relationships among and between human and nonhuman species. Crucially, it must also be a concept that can be applied to governance and decision-making.

This begins with recognition that the wellbeings of all living human and nonhuman individuals are not exclusively determined by the functionings and capabilities of individuals themselves, but are inherently relational and interdependent with the doings and beings of other people and of all living things (cf. Breslow et al. 2016). Several of the research articles we reviewed on the uneven perpetration and distribution of environmental harms (and benefits) by household income-level tacitly acknowledged this, providing a salient illustration. Not only do these articles show that consumption levels of non-renewable energies (i.e. gas, electricity, petroleum from vehicle use) rise broadly in congruence with household income (Chatterton et al. 2016), but that high income households tend to live in areas with better air quality (Barnes, Chatterton, and Longhurst 2019) and in closer proximity to "natural capital" (Mullin et al. 2018) while the lowest income households, out of necessity, both consume less and are overrepresented in (predominantly urban) areas with the most air pollution (Barnes, Chatterton, and Longhurst 2019) – harming their respiratory health (Jephcote and Chen 2013). Put another way, these articles show that low-income households bear a greater share of the "disease burden" disproportionately generated by the higher-consumption, higher-energy doings and beings of high-income households.

Recognising the relational and interdependent nature of wellbeing has a series of uncomfortable and likely unpalatable implications. Most importantly, any pursuit of environmental wellbeing as conceived here is unlikely to translate into policy and practice which only seeks to enhance the wellbeings of relatively disadvantaged groups (e.g. low-income households) without addressing the causes (and causers) of harms. Rather, meeting the need for both social equity and environmental sustainability will likely require the expansion of functionings and capabilities among disadvantaged groups *in addition to* a corresponding contraction of functionings and capabilities among those whose ways of life are most harmful. Thus any pursuit of environmental wellbeing will likely require policies and practices which shrink the economic liberties afforded to the primary perpetrators of environmental harms – a process which such people are likely to perceive as harming their interests. The example of high-income, high consumption households is just one, albeit important, illustration. Attention also needs to be paid to interdependencies in the sphere of production, where humans have for many decades

incurred incalculable harms to both the natural environment and to many nonhuman species with impunity (cf. Carson 2000; Kolbert 2014). In all cases, the reduction of harms poses challenges to the varieties of capitalism that currently dominate social and political life in the territories of the global north, which continue to celebrate both growth-generating productive enterprise and high-energy, high-consumption lifestyles as aspirational modes of human endeavour and as key signifiers of social success (Hawkins et al. 2022)

Reframing policy conversations

Given the inherent complexity and fluidity of environmental wellbeing, and our axiological position that action is necessary, there is a question of how the concept might be operationalised. Our view is that the concept provides an important opportunity to reframe conversations about wellbeing at a local scale. To date, the wellbeing of nonhuman species and their contribution to human wellbeing has not significantly influenced social policies (see, for example, Rupprecht et al. 2020). While issues of justice and equity are prominent in public health literature, for example, it is rare to see this consistently applied at a policy level (Humber 2019; Levy and Sidel 2013). Most discussions of wellbeing continue to implicitly maintain the nature-culture divide which many environmental thinkers argue has accelerated the contemporary environmental crisis (e.g. Pilgrim and Pretty 2010).

This still leaves us with the challenge of using environmental wellbeing in practical policy-making and planning while being sensitive to local contexts. This is not insurmountable, although we note the persistence of "wicked problems" (Rittel and Webber 1973), the risks of policy failure (McConnell 2010) and the dependence on "micro-level processes" as policy evolves (John 2003). Such challenges point to the need to generate political will and a groundswell of support for policy proposals that can take advantage of opportunities that arise. In the remainder of this section, we address the need for political will; the challenge and opportunities of bringing the more-than-human into decision-making; and, in the light of these considerations, some practical principles for framing local policy conversations, supported by examples from the UK of relevant data that may be collected and utilised.

Generating political will

The literature on social movements and political change is extensive and there is no space to summarise it here (see, for example, Markoff 1996; Martínez-Alier 2012). Our articulation of local environmental wellbeing leads us to focus on locally-led political and citizen action as an important condition for generating longer-term policy buy-in at municipal level. The track record of citizen assemblies (Ejsing, Veng, and Papazu 2023; McKee, Hiam, and Klaber 2024) suggests that these offer a useful way of involving the public in considering questions that may prompt polarised responses. We also note the groundswell of environmental action and local policymaking that has arisen from time to time in response to initiatives such as Local Agenda 21 (Dooris 1999) and the declaration of "climate emergencies" by local authorities (Ruiz-Campillo, Castán Broto, and Westman 2021). Such initiatives, while piecemeal and uneven in their effects, can catch the public imagination and engender local policy change. We suggest that the concept of environmental wellbeing, bringing together human and more-than-human welfare, could under favourable conditions become a similar mobilising force.

There is also a need to address the challenges of excessive consumption. While research in this area is limited, an initial exploration of secondary data in the UK suggests that targeting groups and geographies where consumption is higher could be both fairer and more efficient that population-level efforts to reduce carbon emissions (Castano Garcia et al. 2023, 15). Such targeting could benefit from the insights of behavioural economics, where there is some evidence that groups can be "nudged" into pro-environmental behaviours (Wee, Choong, and Low 2021).

Recognising and including the more-than-human

The above observations raise the question of how the more-than-human can be included in decision-making. Here we turn to the growth over the last decade in the "Rights of Nature" movement, which seeks to bring the natural world into policy and planning through granting legal personhood to nonhuman entities (Rawson and Mansfield 2018; Stone 2010; Talbot-Jones and Bennett 2022). Examples include the Whanganui River in Aotearoa New Zealand, which was given legal status in 2017; the Mar Menor saltwater lagoon, which was given legal personhood by the Spanish government in 2022; Ecuador's constitutional guarantee of the rights of nature, which enabled a court to overturn mining licences that would have resulted in the destruction of an ecologically rich cloud-forest in 2021 (Peck et al. 2024); and rivers across Bangladesh, whose rights were upheld by the country's Supreme Court in 2020. In the UK, there are well-established campaigns for the legal personhood of the River Don in South Yorkshire, the River Ouse in Sussex, the River Roding in Essex and the River Cam in Cambridgeshire, among others.[3] While these campaigns focus on the recognition of nonhuman entities, they also recognise the human wellbeing associated with healthy more-than-human ecosystems. Legal personhood is by no means the only way in which nonhuman species can be incorporated in human decision-making, but its potential is already beginning to be demonstrated.

Principles for practical policymaking

This leads us to suggest some broad principles for policymaking at a scale that matches the remit of relevant decision-making bodies such as local authorities. Various frameworks have been formulated to enable policymakers and communities to work through complex issues involving wellbeing at different scales. Examples include the World Health Organization (2023); the European Commission (Bianchi et al. 2024) and the Collective Wellbeing Systems Map project in the United States (Mapping Collective Wellbeing n.d.). While all these offer useful pointers for policymakers, they pay limited attention to the more-than-human.

The approach developed in Wales through the Well-being of Future Generations Act 2015 provides an example of a government-driven approach that we believe has potential. This legislation aims to instil sustainable development as a guiding principle into the decisions of public bodies and formulates its ambitions in terms of both human wellbeing and justice (Jones 2019). Implementation happens at a local authority scale through the work of Public Services Boards which bring together local stakeholders to assess local wellbeing in terms of economic, social, environmental and cultural issues. As a way of guiding place-based decision-making, though, it raises "conceptual challenges associated with defining well-being and spatial justice at the local scale" (Jones 2019, 18). Wellbeing is considered in terms of human wellbeing and the "natural" world is depicted as a

resource to be responsibly managed. The wellbeing of other species is absent other than in terms of maintaining their contribution to human existence. However, it would be feasible to amend the legislation (given political will, as discussed above) to include a more expansive and inclusive definition of wellbeing.

Another promising approach, which has the advantage of local flexibility despite its lack of legislative force, is provided by the Place Standard tool developed in Scotland. The Place Standard aims to be internationally relevant and provides what it describes as "a simple framework to structure conversations about place", collected under 14 themes (Our Place n.d.). The underpinning evidence for the themes has been published by Public Health Scotland (Public Health Scotland 2022). The Place Standard brings together multiple issues that affect the quality of life in place, allowing users to assess the state of the local environment to inform decisions about priorities. This tool has already proved adaptable, being modified since its original formulation to take greater account of climate issues (Hasler et al. 2022) and has been adapted to a German context (Tollmann et al. 2022). A complementary set of 13 "place and wellbeing outcomes" has been developed by the Place and Wellbeing Collaborative for the Improvement Service, the organisation for local government improvement in Scotland (Improvement Service n.d). These are shown in Figure 1.

However, despite the assertion that each theme is underpinned by principles of equality, net zero emissions and sustainability, only one – natural spaces – focuses specifically on the more-than-human. That said, the tool offers a framework within which multiple factors that contribute to the quality of the local environment can be balanced against each other and debated by local publics. Using the UK as an example of what this would mean in terms of data collection, we suggest a version of the Place Standard focusing on environmental wellbeing should contain elements such as:

- Health of local ecosystems (including air, soil, water). These can be measured in terms of the presence or absence of pollutants (in the UK, the Environment Agency already collects such information on watercourses and the Department for Environment, Food and Rural Affairs (DEFRA) collects local data on air quality).
- Richness of biodiversity. Data on a range of biodiversity indicators are collected at a national scale by DEFRA and these could be disaggregated at regional or local scales, supplemented with data collected through citizen science from, for example, local environmental NGOs such as the Wildlife Trusts.
- Progress in carbon reduction. Data on greenhouse gas emissions are already collected at a local authority level by the UK's Department for Energy Security and Net Zero and Department for Business, Energy and Industrial Strategy.
- Human access to green and blue spaces. Data on access to green and public spaces across Great Britain are available from the Office for National Statistics, though they have not been updated since 2021; data for other species do not yet exist in a comprehensive form.
- Access to and quality of public spaces within the built environment (for humans). Data on these are not currently collected in a meaningful form but could be done through local surveys.
- Resilience of the built environment to extreme weather events. The UK Green Building Council, an NGO, has developed a roadmap for climate change resilience in the UK[4] and proposed a range of relevant metrics and indicators.

Figure 1. Place and wellbeing outcomes developed by the Place and Wellbeing Collaborative, Scotland (Source: Improvement Service).

- Exposure to harms from urban environments (e.g. transportation, noise pollution, air pollution). A composite metric could include air pollution data (mentioned above) as well as rates of road traffic accidents, which form part of the Living Environment Deprivation domain in the UK Government's indices of multiple deprivation, and exposure to noise pollution, where data are collected nationally by DEFRA.
- Exposure to harms from industry and economic activities. Local pollution control data are currently collected by DEFRA.
- The socio-spatial distribution of benefits and harms. The UK Indices of Deprivation offer an approach that could be adapted specifically to the issue of environmental benefits and harms, though more work would be required to develop a robust indicator and to consider benefits and harms to nonhuman species.

Depending on the data available in any jurisdiction, the above elements could be measured using existing environmental data supplemented by citizen science (an example would be the "Big Garden Birdwatch" undertaken annually in the UK by the Royal Society for the Protection of Birds). Within local contexts, stakeholders and communities could determine the elements of greatest importance to them and the key indicators to frame their progress towards environmental wellbeing, while recognising the emerging learning from the Rights of Nature movement (see above) and considering how nonhuman perspectives might also be included. The utility of the Place Standard lies in its ability to bring different actors together to consider complex issues that have multiple impacts and select their priorities for action.

Such a locally adaptable approach has the potential to generate imaginative responses to environmental and wellbeing challenges that value other species alongside humans. That said, it should be recognised that this is relatively untrodden territory and it will take time to find approaches that fit each locality. While local implementation is predicated on local circumstances, broad operational principles can be applied by those participating in local action based on the framework outlined above. First is to consider whose wellbeing is at stake – both in terms of different groups of humans, but also in terms of nonhuman species: which species coexist in a locality and what might wellbeing look like for each of them? Second is to assess the factors that contribute to or undermine collective wellbeing and their distribution, in terms of benefits and harms and the actors who exert greatest influence. Such a process could generate maps and matrices visualising the impacts and vulnerabilities of different actors (human and nonhuman) within a locality (cf. Grace, Leather, and Parkes 2024) (see Figure 2, below). Both these stages imply processes of deliberation that could be undertaken, for example, by citizen assemblies (McKee, Hiam, and Klaber 2024) or via participatory budgeting processes (Bartocci et al. 2023).

Such deliberation can suffer from being detached from policy implementation (McKee, Hiam, and Klaber 2024). Local deliberative decision-making needs to be accompanied by supportive policymaking frameworks at a regional or national level. At a time of ecological and social crisis, these may still lack the leverage required to achieve rapid change. An overarching legislative framework may thus prove necessary, but if so it should be adaptable enough to recognise that progress towards environmental wellbeing will look different in different places. Without a clear conceptual foundation to work from as set out in our proposed definition of environmental wellbeing, the competition and conflicts between different local interests will probably continue to be resolved in favour of short-term human wellbeing to the detriment of wider environmental wellbeing.

Conclusion

In offering a definition of environmental wellbeing that can bring together the welfare of humans and the more-than-human world at a local scale, we have been careful not to set out a prescriptive roadmap.

The concept offers a lens through which the multiple situations and interests of human and nonhuman species can be considered at a practical scale. This does not mean that such choices are simple: in any democratic polity, both the concept and its operationalisation will be contestable. Such contestation is inherent in any form of participatory governance (Burke and Stephens 2017). Indeed, it is arguable that local environments have

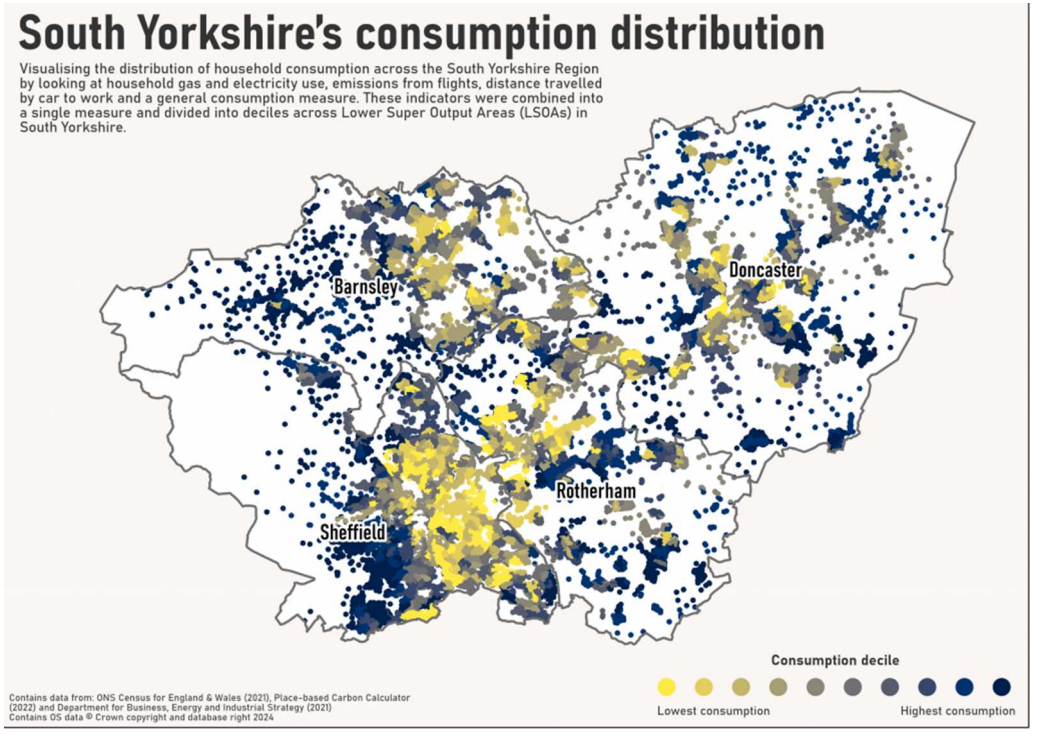

Figure 2. Visualisation of the relative environmental impacts of households in South Yorkshire, UK (Source: Grace, Leather, and Parkes 2024).

often suffered from a lack of contestation over whose wellbeing is at stake. The principles outlined in this paper can provide a common framing within which choices can be made, informed by a clear concept of environmental wellbeing that foregrounds the more-than-human. This framing rebalances the interests of the human and more-than-human while recognising the need for environmental justice. It also draws attention to the importance of locality in shaping choices that must be sensitive to human and environmental contexts, acknowledging both the affordances of places and the locally specific character of environmental harms and injustices.

In writing this article, we have been conscious of the global privilege enjoyed by Anglocentric and Eurocentric traditions and cultures. While this article has been developed in the context of the industrialised global north and its longer-established democratic traditions, we recognise the need to offer tools that can be adapted and changed to different cultural and geographical conditions and different governance systems. In outlining our approach we therefore echo the dictum of the open source computing pioneer Stallman (2002): "Use as you wish; change it to suit your needs; and distribute altered versions".

We offer this outline of a concept of environmental wellbeing and principles for decision-making as a research agenda: the next step should be a set of practical tests in different locations, using deliberative and longitudinal methods to identify the key elements and human and non-human stakeholders that constitute local environmental wellbeing and to consider options for enhancing wellbeing in an equitable fashion. Ideally, such work should be coproduced between researchers and local stakeholders and undertaken iteratively over a period of years to begin to refine the approach in the light of changing circumstances.

This article has sought to offer a definition of environmental wellbeing that is both conceptually sound and practically useful. We offer it as a pragmatic step towards approaches to local governance that fully address the need to see humans as contextualised within ecosystems rather than unaccountable masters of them. We therefore welcome discussion and contributions from other scholars and practitioners to take this work forward.

Notes

1. See https://sdgs.un.org/goals
2. For humans, endowed with an ostensibly unique disposition to apply reason or "deliberative imagination" (Aristotle 2018, 63–65), living in accordance with natural disposition primarily entailed nurturing cognitive abilities by engaging in regular intellectual activity ("since the intellect is in the fullest sense the man") (Aristotle 2004, 273). Aristotle also recognised, though, that several other elements were crucial for flourishing, such as demonstrating moral consideration for other community members alongside "external felicity" excited by consumption of the necessaries for homeostasis.
3. See https://lawyers-for-nature.ghost.io/the-english-rights-of-nature-landscape/
4. See https://ukgbc.org/our-work/topics/resilience-roadmap/

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