



The urban/rural green infrastructure conundrum

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the urban/rural green infrastructure conundrum

Ian Mell and **John Sturzaker** look at how best to align green infrastructure aims and aspirations with rural planning when the land use, land value and composition of urban and rural landscapes differ so dramatically



John Sturzaker

Can expansive rural landscapes be considered as green infrastructure?

Should we consider all green and blue space as *green infrastructure*? Does urban green infrastructure have greater ecological or socio-economic benefits than its rural counterparts? Can we consider expansive rural landscapes as green infrastructure? And how do we plan for green infrastructure when the land use, land value and composition of urban and rural landscapes differ so dramatically?

The recently issued Royal Town Planning Institute (RTPI) Research Publication *Rural Planning in the 2020s*¹ raised a series of questions on how we conceptualise, write policy for, and create implementation and management practices that are appropriate to rural landscapes. The research project from which the publication arose was wide-

ranging, exploring various themes connected to rural planning, including current discussions of green infrastructure, its principles, and rural communities', planners' and the wider environmental sector's understanding of the idea.

One of the findings of the project was that there is widespread appreciation of green infrastructure as a set of supporting networks of green and blue spaces providing benefits that include multi-functional places, improved access to nature, socio-economic and ecological benefits delivered through greening activities, and support for ecological and socio-cultural connectivity between people, places, and habitats. This understanding is common across both urban and rural locations—but the project

highlighted a diversity of action in the application of these principles.

The research found that across the UK and Ireland, and indeed globally, there is variation in how green infrastructure is discussed, depending on whether the context is urban or rural. The knowledge and extent to which green infrastructure is integrated into policy is less prominent—although growing—in rural areas than in urban. Of course, rural areas include centres of employment, recreation, and energy production, and provide critical environmental resources that support biodiversity, climate change adaptation, and water management. However, policy around such themes appears to be disconnected from discussions of green infrastructure, perhaps because of a perception of ‘greening’ as an urban concept. This is problematic, as it threatens the socio-economic and ecological resilience of rural places.

One of the fundamental questions raised in *Rural Planning in the 2020s* is whether we should consider all green, blue or open spaces in rural areas to be ‘green infrastructure’. This strikes at the heart of green infrastructure research, as it fundamentally asks *what green infrastructure is, what it does, and, in the case of rural areas, where can it be found.*

From a review of definitions of green infrastructure, we can identify variation in how the concept is framed. For example, the European Commission defines it as:

‘a strategically planned network of natural and semi-natural areas with other environmental features designed and managed to deliver a wide range of ecosystem services such as water purification, air quality, space for recreation and climate mitigation and adaptation. This network of green (land) and blue (water) spaces can improve environmental conditions and therefore citizens’ health and quality of life. It also supports a green economy, creates job opportunities and enhances biodiversity. [...] Green infrastructure planning is a successfully tested tool to provide environmental, economic and social benefits through natural solutions. In many cases, it can reduce dependence on ‘grey’ infrastructure that can be damaging to the environment and biodiversity, and often more expensive to build and maintain.’²

But in the UK the government states, in the National Planning Policy Framework, that green infrastructure is:

‘A network of multi-functional green and blue spaces and other natural features, urban and rural, which is capable of delivering a wide range of environmental, economic, health and wellbeing benefits for nature, climate, local and wider communities and prosperity.’³

Both definitions consider networks of green and/or blue spaces located at multiple scales to be

central to an understanding of green infrastructure. Moreover, the EU proposition that green infrastructure is part of a *strategic network* of spaces suggests that it should be planned for across boundaries, whether administrative or urban-rural. In the UK the government is even more explicit in noting that green infrastructure is located in both urban and rural locations. However, when reflecting on policy and environmental and academic research, there remains a disconnect between the concepts of greening, green infrastructure, and landscape planning in rural areas.

Drawing on the definitions above to help answer our question ‘Are all green and blue spaces in rural areas green infrastructure?’, we could argue yes, the totality of the landscape should be considered green infrastructure—albeit defined as a set of large-scale elements. These landscape-scale networks may coalesce into a portfolio of ecological mosaics that highlight variability in the form, function, and connectivity of rural landscapes.

However, there is little in the academic and practice-based literature on rural green infrastructure, while there is a significant literature that only discusses green infrastructure as an urban concept. This might be because it is easier to consider how issues of biodiversity loss, public health and wellbeing, water management and climate change should be addressed within a primarily non-green, urban context. When trying to do this at a landscape, regional, or even national scale, what can be viewed as green infrastructure becomes less certain. This is despite the understanding that framing ecological management at a landscape scale is a positive approach, as it respects factors such as migratory patterns, and enables water to be managed at the catchment scale.

Consequently, although one of the first published discussions of the concept of green infrastructure, by Benedict and McMahon,⁴ promoted the role of landscape-scale conservation mandates, the spatial focus of what green infrastructure is and how it is researched has been more limited. This, in turn, might reflect the urban-centric focus of government policy, academic research, and environmental organisations.

Rethinking green infrastructure as a rural phenomenon

If we shift the focus of green infrastructure planning out of an urban and into a rural context, we can identify issues related to provision, management, funding and quality of—and access to—green spaces, as well as the big challenges of climate change, biodiversity loss and water management that are shaping its use in planning policy and practice. Moreover, there is a need to consider the influence that high-quality rural green infrastructure has on health, recreation, economic growth, and quality of life.



Ely Country Park in Cambridgeshire

Rural Planning in the 2020s argues that, to address these issues, we must reflect on green infrastructure as both a set of resources (for example forests, waterways, and grasslands) that meet ecological needs and as a set of thematic approaches (for example economic development and biodiversity management) to aid planning praxis in rural areas. This would require a more refined examination of existing agricultural, forestry and water management practices, aligned with an appreciation of how people interact with and gain benefits from rural spaces.

Such a change in mindset would not be simple to bring about. Existing land management practices in rural areas are grounded in knowledge of local environmental systems, often linked to national or global economic markets, and located within a framework of long-standing approaches emphasising the importance of continuity in rural land management. However, agendas such as the former Countryside Agency's *Countryside in and Around Towns*,⁵ the EU Water Framework Directive (WFD)⁶ and the European Landscape Convention (ELC)⁷ challenge narrow policy worldviews and support a more reflective discussion of green infrastructure principles, such as ecological and socio-cultural landscape connectivity, multi-functionality, access to nature for all, and planning for socio-economic

and ecological sustainability within rural planning. The question we therefore need to ask is: 'Why are these considerations less prominent in current rural policy?'

Challenging the legacy of rural politics in what has been called the 'paternalistic countryside'⁸ might allow advocates of more environmentally focused practices to help shape policy. To achieve this, there is a need for an appreciation of rural land use that identifies synergies between historical and contemporary land uses, led from within rural communities, so that advocates can allay fears of change and highlight the benefits of green infrastructure.

It is therefore worth noting that high-quality examples of green infrastructure planning do exist in rural areas. For example, the first and second iterations of the Cambridgeshire Green Infrastructure Strategy,⁹ the strategic green infrastructure work being undertaken by the West of England Combined Authority (WECA) and Bath and North East Somerset, Bristol, North Somerset and South Gloucestershire councils,¹⁰ the urban-fringe/rural planning for greater socio-economic and ecological connectivity in the Central Scotland Green Network¹¹ and the thematic discussions outlined in the Derry and Strabane Green Infrastructure Plan 2019–2032¹² all illustrate an understanding of the principles, as

well as thematic framings, such as biodiversity, people and place, and climate change, which are shaping green infrastructure discourses.

What links each of these examples is the strategic leadership provided by local government officers and decision-makers who acknowledge the added value of embedding the spatial and elemental principles of green infrastructure into policy deliverables. In some cases, there is a legacy of working with the concept in local policy forums, cementing collaborative partnerships to address divergences in views about the focus of rural policy. However, this level of commitment to green infrastructure is not universal, nor is there consensus on what rural policy should focus on. In some locations, the legacy of agriculturally focused policy is particularly strong, limiting the discussion of alternative land management practices, such as conservation, rewilding, or ecosystem services thinking.

How we progress the planning of rural areas can therefore be constrained by ongoing conflicts between traditional land management and arguably more forward-looking alternatives. Moreover, the desire to continue delivering rural activities such as farming in a conventional way limits the consideration of alternative land management approaches.

‘How we progress the planning of rural areas can therefore be constrained by ongoing conflicts between traditional land management and arguably more forward-looking alternatives’

What relationship do designations have with rural green infrastructure?

An added area of complexity that is influencing the way that green infrastructure is introduced into discussions about rural planning is the role of existing designations and their management. Could Green Belts, National Parks, Areas of Outstanding Beauty (AONBs) or Ramsar sites be classified as green infrastructure? Looking back at the definitions above, perhaps yes, as some, at least, are of high ecological and/or socio-cultural quality; and/or could help in delivering climate, biodiversity and water management functions, as well as in providing access to nature and supporting economic and recreational needs. They are also managed through an approach that prioritises protection over development.

However, there tends to be limited consideration of green infrastructure within current discussions of such designations. In some ways this reflects the

emphasis placed on specific principles—such as the natural and ecological value of National Parks, or the use of Green Belts to restrict urban coalescence—which do not always align easily with the broader principles of green infrastructure.

It is also the case that these designations have become part of the ‘dogma’ of the UK planning systems,¹³ shaping land management and use over a prolonged period. Green infrastructure cannot be said to have the same legacy. Consequently, although practitioners, the public and politicians alike recognise designations such as the Green Belt or a National Park, if you were to ask the same people what green infrastructure is, they might give a vague list of landscape elements, benefits or functions, rather than a specific response.¹⁴

Designations are useful tools in protecting valued landscapes and spaces and can help to promote continuity in how rural areas are planned, offering an approach to planning that aims to maintain the ecological, socio-cultural and economic benefits associated with a specific environment. However, the rural areas of the UK are changing in the face of a range of forces, including climate change, demographic fluctuation, and increasing demands for housing and tourism (exacerbated by Covid-19). Rural policy therefore needs to adapt. Thus green infrastructure, Nature Recovery Networks, Local Nature Partnerships and even rewilding efforts may become increasingly practical responses to questions of future land management. The recent discussions over whether Environmental Land Management Schemes will continue adds further complexity to this discussion.

Each of these alternative approaches to land management in rural areas is contested—especially rewilding—but they offer opportunities to think beyond existing siloed approaches to rural planning. They also provide the added value emphasised in historic environmental stewardship schemes supported by the EU and the Department for Environment, Food and Rural Affairs by working with land managers to develop more integrated approaches that align socio-economic and ecological benefits. Green infrastructure planning could be seen as the least controversial of these options, as it does not call for wholesale changes to existing management practices. Instead, it asks planners and land managers to think spatially, elementally and thematically, to consider what is possible rather than demanding immediate wholesale change.

Such a transition in thinking continues to be challenging in some quarters, as it can be viewed as moving away from agricultural production or landscape protection as the most prominent land uses in rural areas. This is exemplified within discussions over food security and the rhetoric of farming communities, which aim to rebuff any attempts to remove land from agricultural production



The challenge is to explore how rural green infrastructure can complement existing activities or designations

to support climate mitigation activity.¹⁵ The challenge for green infrastructure advocates is therefore to explore how it can complement existing activities or designations while simultaneously offering alternative options that diversify rural planning practices.

One option to generate such support is the enhancement of a more effective dialogue between environmental organisations such as the Forestry Commission, large landowners, including the Crown Estate, and environmental charities and responsible authorities, such as CPRE—The Countryside Charity, Historic Environment Scotland, and Natural Resources Wales. If these bodies (and others) act as a ‘critical friend’ for green infrastructure in rural areas, it may be easier to foster engagement within rural planning that favours alternative approaches rather than simply maintaining the status quo.

Pathways to embedding green infrastructure into rural policy

As in urban areas, rural policy-makers are tasked with addressing a complex range of issues simultaneously, often within an overlapping mosaic of environmental and landscape designations. Rather than treating existing land uses as sacrosanct, working more effectively with a green infrastructure perspective may offer innovative ways to frame policy, placing the benefits for people and rural landscape management at the core of policy.

However, there has been a lack of joined-up thinking in a significant number of rural areas in the UK, where links have not been made between

green infrastructure and broader needs to address deficits in energy, food production, housing, or transport infrastructure. A joint spatial and thematic approach to strategic development that addresses landscape-scale issues across urban-rural boundaries is one way to do this—as was done through some Regional Spatial Strategies in England prior to 2011. Moreover, ongoing compliance with the ELC and the WFD offers land management specialists pathways that can be followed to consider rural planning as a collaborative process.

Alongside discussions of how best to embed green infrastructure within rural planning, there is a need to consider whether a spatial, elemental or thematic approach to management would be more appropriate. Such considerations could take into account health and wellbeing, access, climate change, access to nature, and the economic cost of more sustainable rural management. Within these debates, how we perceive the alignment of existing land use practices with more strategic ecologically focused management is of paramount importance.

The evaluation of policy and practice for the *Rural Planning in the 2020s* project highlighted a need for local government, developers, the environment sector and existing land managers to consider how green infrastructure can be better aligned with rural praxis. The following considerations are central to future debates on green infrastructure for advocates working in rural areas:

- the need for a more effective process of inclusion of green infrastructure within policy and practice across each nation of the UK and Ireland;

- the scope for more effective use of contemporary environmental policy, guidance and standards to support policy dialogues across the UK and Ireland—for example, the 25 Year Environment Plan, the Environment Act 2021, the national Green Infrastructure Standards Framework (launched in January 2023), and the Nature Recovery Network in England, the Planning (Scotland) Act 2019, and the growing number of city/city-regional green infrastructure strategies being developed in Ireland and Northern Ireland (as in County Wicklow, Dublin City Region or Belfast, for example);
 - the potential to re-examine environmental policy in rural areas to better appreciate where green infrastructure can be located within it—and in turn more fully align terminological variation, action and understandings of the added socio-economic and ecological benefits associated with the concept;
 - the opportunity to promote a debate focusing on rights to landscape using the green principles of infrastructure connectivity, access to nature, and ecological networks to support different public, private, rural-industrial and residential community views within rural planning, management, and land use discussions;
 - the importance of greater alignment of water, biodiversity and climate change thinking within discussions on housing, socio-economic activities, and transport planning, so as to support socio-economic and ecological thinking in rural areas; and
 - the promotion of a more detailed awareness of the regional variations associated with green infrastructure praxis across the UK and Ireland within rural locations (and across diverse landscape mosaics), so as to identify best practice in management, policy formation, and knowledge transfer.
- **Dr Ian Mell** is with the Department of Planning and Environmental Management, University of Manchester. **Professor John Sturzaker** is with the Department of Psychology, Sport and Geography, University of Hertfordshire. The views expressed are personal. The RTPI Rural Planning in the 2020s project was completed by a multi-institution team of academics from England, Northern Ireland, Scotland and Wales—comprising Amy Burnett, Aiden Bygrave, Jaime Cecil and Scott Copey (University of Hertfordshire), Neale Blair (Ulster University), Neil Harris (Cardiff University), Nick Gallent and Iqbal Hamiduddin (University College London), Meri Juntti (Middlesex University), Leslie Mabon (Open University), Gavin Parker (University of Reading), and Mark Scott (University College Dublin), supported by an RTPI steering group.

Notes

- 1 *Rural Planning in the 2020s*. RTPI Research Paper. RTPI, Jul. 2022. www.rtpi.org.uk/media/11955/rural-planning-in-the-2020s.pdf
- 2 'Ecosystem services and green infrastructure'. Webpage. European Commission. https://ec.europa.eu/environment/nature/ecosystems/index_en.htm
- 3 *National Planning Policy Framework*. Ministry of Housing, Communities and Local Government, Jul. 2021. www.gov.uk/government/publications/national-planning-policy-framework--2
- 4 MA Benedict and E McMahon: *Green Infrastructure: Linking Landscapes and Communities*. Island Press, 2006
- 5 *The Countryside in and around Towns: A Vision for Connecting Town and Country in the Pursuit of Sustainable Development*. Countryside Agency/ Groundwork, Jan. 2005
- 6 D Hering, A Borja, J Carstensen, et al.: 'The European Water Framework Directive at the age of 10: a critical review of the achievements with recommendations for the future'. *Science of the Total Environment*, 2010, Vol. 408 (19), 4007–19
- 7 M Roe, P Selman, IC Mell, C Jones and C Swanwick: *Establishment of a Baseline for, and Monitoring of the Impact of, the European Landscape Convention in the UK*. Defra Contract No. CR0401 (Comp. Code: WC0802). Department for Environment, Food and Rural Affairs, 2009
- 8 P Lowe, T Marsden, J Murdoch and N Ward: *The Differentiated Countryside*. Routledge, 2003
- 9 *Cambridgeshire Green Infrastructure Strategy*. Cambridgeshire Horizons, 2011. www.cambridge.gov.uk/media/2557/green-infrastructure-strategy.pdf
- 10 *West of England Joint Green Infrastructure Strategy 2020–2030*. West of England Combined Authority/Bath and North East Somerset Council/Bristol City Council/North Somerset Council/South Gloucestershire Council, May 2020. www.westofengland-ca.gov.uk/wp-content/uploads/2020/07/Joint-Green-Infrastructure-Strategy-%E2%80%933-June-2020-.pdf
- 11 M Hislop and A Corbett: *Green Infrastructure Policies in the CSGN: A Review of Local Authority Policies on Green Infrastructure in Built Development*. GCV Green Network Partnership, for Central Scotland Green Network Trust/Scottish Government, Apr. 2018. <https://mainstreaminggreeninfrastructure.com/resources.php?gi-csgn-scotland>
- 12 *Green Infrastructure Plan 2019–2032*. Derry City and Strabane District Council, 2018. www.derrystrabane.com/getmedia/70ecf409-28a0-4262-9533-ca6ea6b75bd9/Green-Infrastructure-Plan-2019-2032.pdf
- 13 For example, Green Belts were first proposed by the Greater London Regional Planning Committee in 1935 and codified in the Town and Country Planning Act 1947, while the first National Park in the UK—the Peak District—was designated in 1951
- 14 See I Mell and M Whitten: 'Access to nature in a post Covid-19 world: Opportunities for green infrastructure financing, distribution and equitability in urban planning'. *International Journal of Environmental Research & Public Health*, 2021, Vol. 18 (4), 1527. www.mdpi.com/1660-4601/18/4/1527, which provides an outline of the scope of elements, themes, scales and benefits that could be considered within discussions of green infrastructure
- 15 The ongoing debates regarding the expansion and rewilding of areas of the Wicken Fen site in Cambridgeshire is an example of how alternative land management practices have been opposed by local farming communities. They have quoted food security, flooding and economic reasons for their opposition, stating that the UK cannot afford to move away from traditional agricultural practices, even in the face of the projected impacts of climate change and biodiversity loss