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November 21st, 2024

Harnessing England's Biodiversity Net Gain legislation to amplify urban flood risk management

Climate change doesn't just bring about higher temperatures, but floods. In the UK, flooding is the biggest natural hazard. Maeve Sherry argues that the best way to defend urban areas from flood risk is to seek nature-based solutions like green spaces, wetlands and parks and use the biodiversity net gain legislation to achieve this.



Flooding is the number one natural hazard **in the UK**. The risks and associated costs of flooding are growing due to climate change (and non-climatic factors) but the planning system in England has not yet adapted accordingly. Both **government statistics** and **independent reporting** show continued building in areas of flood risk in ways that can fail to address risks, and only non-statutory standards are in place for sustainable drainage systems. At the same time, wildlife and habitats in the UK, and nature's ability to provide climate mitigation and other ecosystem services, are **declining faster** than at any time in human history.



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waterways, can contribute to flood mitigation while enhancing urban biodiversity.



Given the scale and multiplicity of the challenges, against limited resources, innovative and integrated approaches are needed, leveraging the skills and collaborative efforts of a diverse range of stakeholders.

The power and challenges of nature-based solutions

Nature-based solutions, such as the creation of urban green spaces, parks, wetlands, and the restoration of natural waterways, can contribute to flood mitigation while enhancing urban biodiversity. Such integration could provide multifunctional benefits, improving both the environment and the quality of urban life, as well as stated government priorities like water quality.

However, there are persistent challenges in operationalising and scaling nature-based solutions, not least in an urban context due to inherent space constraints. Green infrastructure competes with its grey counterpart for scarce resources, and limited monitoring of natural flood management projects hinders identification and replication of best practice.

Protecting and restoring biodiversity: the global and local context

Beyond the operational and scaling challenges, greater coordination and alignment of regulations and standards is needed to maximise co-benefits and incentivise greater take-up of natural flood management projects.



As part of the Environment Act, the biodiversity net gain legislation is an approach to development and/or land management that aims to leave the natural environment in a measurably better state than beforehand.



Biodiversity COP15 saw the adoption of a new set of international goals for biodiversity called the Kunming-Montreal Global Biodiversity Framework (GBF). The UK was among 188 governments that committed to address the ongoing loss of terrestrial and marine biodiversity, including via **Target 14** of the GBF which aims to “*Ensure the full integration of biodiversity and its multiple values into policies, regulations, planning and development processes, strategic environmental assessments, environmental impact assessments...*”

Against that backdrop, the biodiversity net gain legislation came into effect in England from February 2024 and represents a significant shift in planning regulations. As part of the Environment Act, the biodiversity net gain legislation is an approach to development and/or land management that aims to leave the natural environment in a measurably better state than beforehand. Its objective is to establish standardised practices for developers to create and improve habitats, and apply a consistent metric (using habitat as a proxy) to bring about a quantifiable measure for biodiversity and habitat gain.

The legislation mandates that developers in England provide a minimum of 10 per cent biodiversity net gain by the end of a new development, and the habitat they create or enhance must be maintained for at least 30 years. Biodiversity improvements should first be considered within the project’s designated boundaries in order to contribute directly to the local ecosystem and surrounding environment.

Legislation as an opportunity

The biodiversity net gain legislation represents a key opportunity because it could unlock an additional funding source, and regulatory incentive, that could be harnessed to encourage spaces for nature that bring a range of co-benefits, including natural flood management, in an urban context.

Co-benefits include: *environmental* (carbon sequestration, biodiversity benefits, improved air and water quality, temperature regulation, flood and erosion control), *social and health/wellbeing* (green space, amenities, community spirit/pride, noise attenuation) and *economic* (reduction in healthcare costs associated with cleaner drinking water, enhanced resilience and ability to adapt to climate change impacts, green jobs).

Investments that are now required by law could be channelled toward opportunities that might otherwise not be available given budget constraints, such as investments into local nature regeneration projects to make urban environments greener and more flood resilient.

Although there are barriers to nature restoration in urban settings, case studies such as **Hull City Council** illustrate that these can be overcome and offer insights to other interested stakeholders into how the underlying solutions could be applied in their own contexts and settings. Seizing this opportunity is critical as part of wider national and local efforts to build resilience to flood risk.

Enhancing urban resilience

Appropriate policy measures

The overarching goal is supportive and flexible policies that facilitate the integration of biodiversity net gain legislation into natural flood management strategies and maintenance plans. Policies would also ideally incentivise biodiversity net gain projects with benefits that are distributed fairly across different urban areas, and formally recognise co-benefits. Programmes designed to help projects to develop their business cases and become investment-ready could further emphasise multi-benefits.

This is a particularly key area as uncertainty remains regarding how the new UK Government will pursue its planning, building and development priorities in pursuit of growth.

Better leveraging of insurance-underwriting solutions

There is a role for the insurance sector in this landscape, through development of innovative insurance solutions that are designed to protect biodiversity and its maintenance/restoration over time, essentially by de-risking the investment in biodiversity net gain and natural flood management measures, informed by data and models to appropriately credit and incentivise such projects. For example, such solutions might insure a landowner's upfront costs associated with protecting/enhancing biodiversity, or mitigate the losses associated with restoring biodiversity to its planned state if adversely affected by a pre-defined insured peril.

These solutions would complement the existing insurance framework, in particular the role of **Flood Re** which will run until 2039 at which time insurers should offer flood protection based on actual risk to property.

Research and collaboration

Research into best practices regarding the integration of biodiversity net gain with urban flood risk management – and the systematic translation of emerging insights into decision processes – can inform and support better quality outcomes, including insights into how to develop comprehensive strategies that address multiple urban challenges simultaneously and 'what good looks like'.

It will need an increase and upskilling of the teams tasked with delivering these new requirements, be they focused on BNG, green infrastructure, planning or other related roles, including assessment of and investment in the data and technology that would support the integration of BNG and FRM.

Engagement of and collaboration with a wide stakeholder group (including architects and built environment professionals) will bring a full range of perspectives to inform holistic solutions.

Looking ahead

While the biodiversity net gain legislation is now enacted, there is uncertainty about what the future flood risk management and planning framework will look like – but also the opportunity to get it right. Care is needed, however, to ensure that a focus on natural flood management does not come at the expense of biodiversity. Innovative solutions will help to avoid any unintended consequences.

This opportunity should be seized by policymakers, national and local planning authorities including those tasked with managing urban flood risk, property developers and their financiers/insurers.

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