



MAINSTREAMING NATURE-BASED SOLUTIONS

Biodiversity



Led by Durham University, NATURVATION involves 14 institutions across Europe working in fields as diverse as urban development, innovation studies, geography, ecology, environmental assessment and economics. Our partnership includes city governments, non-governmental organisations and business. We will assess what nature-based solutions can achieve in cities, examine how innovation is taking place, and work with communities and stakeholders to develop the knowledge and tools required to realise the potential of nature-based solutions for meeting urban sustainability goals.

Acknowledgements: Harriet Bulkeley, Laura Tozer, Sander van der Jagt, Helen Toxopeus, Hade Dorst, Hens Runhaar, Alexandru Matei, Christiane Gerstetter, McKenna Davis, Ewa Iwaszuk, Lisa-Fee Meinecke, Sandra Naumann, Judit Boros, Linda Juhasz-Horvath, Andrea Lituma-Sanchez, Sydney Kaiser, Rebeka Devenyi, and Elisa Terragno Bogliaccini

Recommended citation: Xie, L. (2020) Mainstreaming Nature-Based Solutions: Biodiversity, NATURVATION Guide

More information: www.naturvation.eu



This research has been funded by the European Commission's Horizon 2020 research and innovation programme under grant agreement no. 730243 and participating partners in the NATURVATION project.

SERIES INTRODUCTION

Cities are increasingly seen as a key arena for governing global environmental, social and economic challenges. Nature-based solutions – such as green roofs, parks or sustainable urban drainage – are gaining traction as a promising approach to sustainable urban development. They are a cost-effective and efficient strategy that can address multiple challenges in cities simultaneously.

The mobilisation of nature to enhance urban sustainability is taking place through various experimental projects. But such solutions have yet to be widely adopted and implemented. In order to realise their potential, there is an important need to develop our understanding of how to generate promising pathways for mainstreaming nature-based solutions.

Nature-Based Solutions (NBS) are defined by IUCN as actions to protect, sustainably manage, and restore natural or modified ecosystems, that address societal challenges effectively and adaptively, simultaneously providing human well-being and biodiversity benefits.

Drawing on extensive research in the UK, Sweden, Germany, the Netherlands, Spain, Hungary and at level of the EU, we have identified 20 actions – stepping stones – that can build the potential for mainstreaming nature-based solutions. Rather than seeking universal pathways for mainstreaming nature-based solutions, diverse combinations of stepping stones can support their uptake to address different sustainability challenges and under diverse urban, financial and policy conditions.

This series of five reports presents promising pathways for mainstreaming nature-based solutions to address: climate change; biodiversity; economic regeneration; social inclusion and the sustainable development goals agenda. Each report asks: how can the mainstreaming of nature-based solutions be supported through this agenda? And what in turn can working with nature-based solutions do to ensure that sustainability challenges are mainstreamed at the urban level? We find a variety of complimentary pathways that can help to foster more sustainable cities for the future.

EXECUTIVE SUMMARY

This report specifically addresses the mainstreaming of nature-based solutions for biodiversity. Nature-based solutions are increasingly integrated in urban development practices. They have the potential to effectively address biodiversity challenges through conserving nature, restoring nature, and mobilising people's ability to thrive with nature. In the meantime, urban policies and strategies that aim to address biodiversity loss also hold great potential to drive the wider application of nature-based solutions. To mainstream nature-based solutions and to fully utilise their potential in urban biodiversity governance, this report draws on extensive empirical research in European cities and summarises four promising pathways:

Pathway 1: Regulate for Biodiversity No Net Loss, or even Net Gain

This pathway focuses on implementing and professionalising Biodiversity No Net Loss/Net Gain regulations and positioning nature-based solutions as an effective biodiversity offsetting or preservation strategy. The policy paradigm of biodiversity net gain, particularly if connected with other socio-economic or environmental benefits, can politically and financially support the mainstreaming of nature-based solutions. Regulatory and governance approaches that focus on mitigating and offsetting the negative environmental impact of urban development often set out explicit biodiversity targets for new projects, which can incentivise the adoption and investments on multifunctional nature-based solutions.

Pathway 2: Co-governance for Public-Private Funding

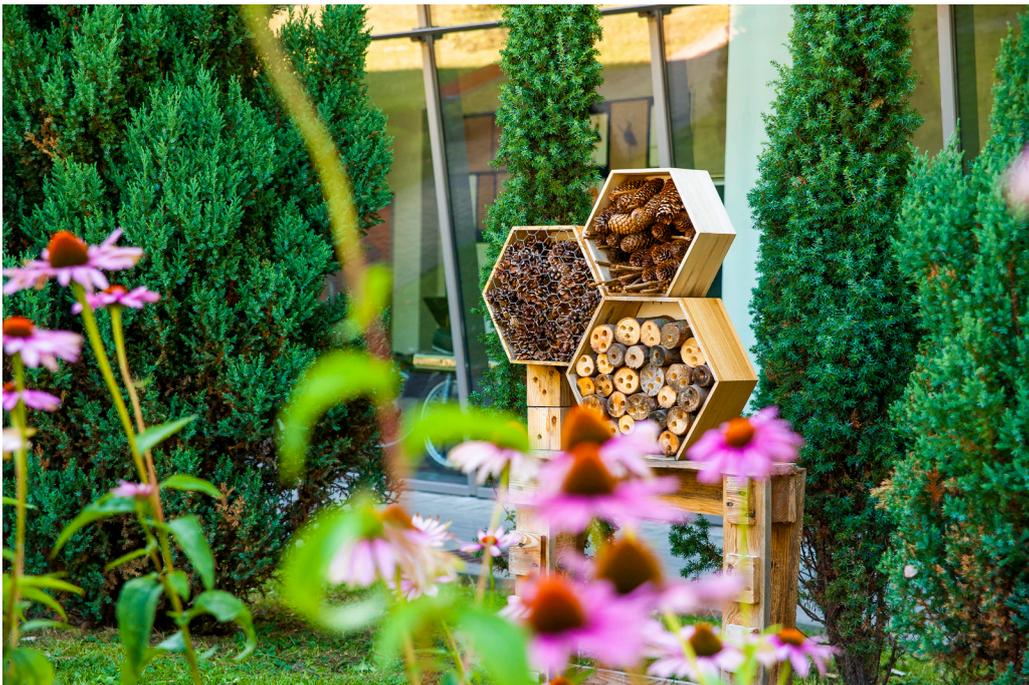
Biodiversity gains can be delivered through co-governance arrangements between public and private sectors aimed at co-funding nature-based solutions. As different stakeholders often hold various interests or goals in developing an urban project, co-governance models can provide opportunities to bring them together to share the costs and risks to finance nature-based solutions that can provide biodiversity benefits and can further enable the synergy of working with nature.

Pathway 3: Biodiversity as a Co-Benefit of Urban Sustainability

This pathway is focused on integrating biodiversity into other prioritised sustainability agendas that drive current urban greening practices. The multi-functionality of nature-based solutions can provide co-benefits that can deal with many urban sustainability issues simultaneously (e.g. biodiversity, climate change mitigation and adaptation, health, and social inclusion), with the result that they can effectively engage multiple actors. This can open up great opportunities for mainstreaming nature-based solutions.

Pathway 4: Building with Nature

This pathway focuses on the important role of the real estate sector in integrating biodiversity and nature-based solutions into urban development. New urban development (including building and infrastructure construction) can be a major threat for biodiversity. Reducing its biodiversity impacts, either through on-site conservation and enhancement or off-site offsetting in the local area, is crucial for maintaining or improving biodiversity in cities, which thus presents great opportunities for mainstreaming nature-based solutions that work with nature.



			
Provide a public mandate	Regulate for No Net Loss	Include in contractual requirements	Align with strategic priorities
The mainstreaming of NBS can benefit from policy-makers and investors giving a clear mandate for NBS to be included in urban development through tender and procurement policies, policy instruments (e.g. land use planning guidance), and where possible mandatory regulation.	No net loss / net gain regulation for urban nature (biodiversity) has the potential to generate greater interest in NBS across Europe. Developing harmonised regulation across Europe with strong monitoring and sanctioning to increase effectiveness has the potential to support NBS mainstreaming	Utilities (e.g. water, waste, energy) and network service providers (e.g. road and rail authorities, waterway authorities) are either publicly owned or operate on long-term contracts that are bound by regulatory requirements for service provision. Including NBS as required for the delivery of mandated functions (e.g. water quality treatment) or for the upkeep of land-holdings (e.g. train sidings, roadside verges) provides an important avenue for mainstreaming.	Positioning urban NBS as generating benefits for prioritised policy goals through generating narratives and evidence (i.e. climate change mitigation & adaptation, circular economy and healthy urban living) can widening their relevance and community of practice.
			
Create intermediaries	Generate partnerships	Establish demonstration projects	Engage insurance sector
In order to overcome institutional silos within both public and private sector organisations, new organisational forms that work across these divisions are required. Intermediary units can either be established within organisations or outside (by external bodies) and provide co-ordination between departments as well as platforms for innovation.	Stimulating partnerships between public, private and third sector organisations for the co-design, development and maintenance of urban NBS is critical for generating initial action on the ground and increasing support for mandatory urban greening policies.	Demonstration or pilot NBS projects, often involving research, can create shared learning and knowledge development as well as providing tangible demonstrations of how NBS can work in practice, creating confidence amongst partners about their potential.	Engage the insurance sector to support upscaling of urban NBS based on their risk reduction needs and damage cost expertise

			
Facilitate community-based action	Provide economic incentives	Develop markets	Build co-financing arrangements
Facilitate and support community-based action for local urban NBS through improving citizen awareness and support	Provide economic incentives (tax cuts, subsidies) for integrated delivery of urban NBS as a component of urban sustainable development.	Positioning NBS as a sustainability solution offering wide societal and reputational benefits can support the development of demand for NBS projects which in turn can stimulate supply.	Build governance arrangements between the public and private sectors to enable co-funding for NBS development and maintenance
			
Work with investment cycles	Stimulate institutional investment for risk reduction	Target areas of low land value	Improve data & monitoring
Integrating urban NBS into infrastructure projects and renovation cycles to increase their (multi)functionality and can save costs by reducing the need for additional outlay and drawing on existing budgets	Institutional investment for urban NBS is likely to be forthcoming based primarily on their climate risk reduction value (adaptation and mitigation), and specific data/modelling may be required to realise this potential.	NBS can face competition from other land-uses which return a higher rate on investment. Using urban space with a lower value can suit some forms of NBS and provide a more cost-effective means of urban greening (e.g. street green, pocket parks and building-integrated green)	Mainstreaming NBS will require the development of evidence on their performance urban NBS, through the use of 'big data' and new assessment tools that can support effective monitoring, evidence-building and assessments of their effectiveness in addressing key urban goals.
			
Advance valuation models	Grow practitioner expertise	Incorporate in green investment products	Promote certification schemes
Making the case for NBS requires that we develop and disseminate valuation models that specify the different (monetised) benefits and costs of NBS, to facilitate public and private investment decisions.	Make practitioner-oriented expertise on urban NBS available to facilitate integration of NBS in the actual urban development process (i.e. practitioner guides and collaborative design).	Include urban NBS into (existing and new) green / impact / sustainable investment products in order to enable projects to access this source of finance.	Integrate urban NBS criteria into green certification schemes, in particular for buildings, based on recognition of NBS the contribution NBS can make towards sustainability goals.

URBAN NATURE-BASED SOLUTIONS FOR BIODIVERSITY

Research undertaken by the NATURVATION project reveals that many European cities are making explicit contributions to biodiversity through nature-based solutions. These local and subnational actions resonate with the Post-2020 Global Biodiversity Framework (GBF) which aims to bring about a transformation in society's relationship with biodiversity. As the Zero Draft of the Post-2020 GBF published in January 2020 makes clear, in addition to seeking to conserve and restore nature, a central goal for biodiversity governance in the coming decade is to ensure that nature's contribution to people is also preserved and enhanced.² Therefore, urban contributions to global biodiversity goals through nature-based solutions can be categorised as actions that Conserve nature, Restore nature, and mobilise people's ability to Thrive with nature.³

Conserve

The protection, care, and management of urban nature can contribute to the preservation, maintenance, sustainable use and enhancement of biological diversity in cities. Various nature-based solutions thus have the potential to prevent further degradation of natural ecosystems and resources. They also hold the promise to provide multiple benefits across the range of sustainability challenges facing cities and to offer flexibility in the face of a changing climate.

Restore

Urban nature has often been degraded by pollution and waste. Restoring river valleys, urban parks and green spaces can restore habitat and improve the conditions for wildlife in the city and generate new spaces for people to enjoy. Nature-based solutions for restoration have often focused on habitat improvement and planting; creating artificial structures for nesting, shelter or to facilitate faunal movement and connectivity between sites; control of pest or invasive species; and community engagement and education programs including citizen science and site or species monitoring programs.

Thrive

Urban nature contributes to the health, well-being and livelihoods of citizens. Connecting to urban nature allows communities and individuals to thrive, boosting mental and physical health and creating new opportunities for work and leisure. To enable nature and society to thrive together, it is increasingly imperative to identify a holistic development and governance mechanisms through which the needs of both society and nature can be reconciled. Integrating nature-based solutions in urban development allows cities to thrive by enabling economic regeneration, enhancing environmental quality and creating community well-being. Through nature-based solutions, cities' contribution to global biodiversity goals could be realised and improved.

¹ Xie, L. & Bulkeley, H.A. (2020). Nature-based Solutions for Urban Biodiversity Governance. Environmental Science and Policy.

² <https://www.cbd.int/doc/c/efb0/1f84/a892b98d2982a829962b6371/wg2020-02-03-en.pdf>.

³ Xie & Bulkeley (2020).

MAINSTREAMING NATURE-BASED SOLUTIONS FOR BIODIVERSITY ACTION

Nature-based solutions can be mainstreamed at the urban level through several pathways to conserve and restore biodiversity in cities as well as to preserve and enhance nature's contribution to people. Drawing on extensive empirical research on current practices in European cities, this report identifies four pathways to mainstream nature-based solutions in urban development so that biodiversity considerations become integrated into urban development:

PATHWAY 1: Regulate for Biodiversity No Net Loss or Even Biodiversity Net Gain

This pathway relies on Biodiversity No Net Loss (or even Net Gain) regulation in cities and on framing nature-based solutions as an effective approach to achieve biodiversity gains. The policy paradigm of Biodiversity No Net Loss/Net Gain requires mitigating and offsetting the negative environmental impact of urban development through on-site or off-site practices that deliver biodiversity gains. As such, it presents significant opportunities for integrating nature-based solutions in new urban developments. When green-blue urban space is lost to real estate or infrastructure development, a No Net Loss/Net Gain program can incentivise or require offset investments into and maintenance of nature-based solutions in the city.⁴

To position nature-based solutions as an effective biodiversity offsetting or preservation strategy requires the development of evidence of the biodiversity benefits of nature-based solutions. Meanwhile, as we found, in some cases, whilst local regulations are in place to enhance urban nature and to protect biodiversity, they are poorly executed or monitored. Therefore, besides developing knowledge on evaluating the performance of nature-based solutions, strong monitoring and sanctioning are key for the effective implementation of nature-based solutions for urban biodiversity. In addition, since the initial adoption and the upscale of biodiversity regulations are often facilitated by experimental pilot projects or policy lobbyist or consultee (e.g. NGOs and city network), developing demonstration projects and stimulating partnerships between governments of different levels and with private and third sector organisations can be critical for shaping and improving urban biodiversity regulations, and can influence the uptake and management of nature-based solutions for biodiversity.

WHAT IS NEEDED TO ACTIVATE THIS PATHWAY?



⁴ See the Business Model Catalogue for Urban NBS for more on: www.naturvation.eu/businessmodels

Biodiversity Net Gain policy of the UK



A guiding principle for the UK Government's 25 Year Environment Plan is biodiversity and environment net gain. The recent update to the National Policy Planning Framework, which guides local authority planning, significantly enhances and improves the policies around biodiversity. In the context of a planning system that is headed towards mandatory biodiversity net gain for new developments, some infrastructure providers (e.g. Network Rail) are developing biodiversity plans and seeking to incorporate biodiversity net gain into infrastructure projects. This represents an opportunity for integrating nature-based solutions into existing spending on urban infrastructure. Such integration is supported by the Biodiversity Metric developed by the Department of Environment, Food and Rural Affairs (Defra), which scores the condition and distinctiveness of particular habitats to quantify potential biodiversity net gain for developments. Defra ran six pilot projects with local authorities from 2012-2014 to test biodiversity offsetting. A revised metric, Defra Biodiversity Metric 2.0, is currently under development and will score the wider multifunctional benefits of habitats related to biodiversity as well as broader ecosystem services. This will further promote the mainstreaming of nature-based solutions which can offer multifunctional benefits including biodiversity.

(Photo Credit: Shutterstock / Edinburghcitymom)

PATHWAY 2: Co-governance for Public-Private Funding

This pathway is focused on developing co-governance mechanisms for public and private sectors to co-fund nature-based solutions that can deliver biodiversity gains. An example of such governance mechanisms is habitat banking (or biodiversity banking), which brokers between developers, landowners and planning authorities to fund conservation actions intended to compensate for and mitigate the unavoidable environmental impact caused by development projects (e.g. in UK and Spain). Another example is green bonds, a type of fixed-income instrument that is specifically earmarked to raise money for climate, biodiversity, and environmental projects (e.g. in Sweden). There are also many co-governance models that support the funding of urban nature-based solutions and that may have biodiversity benefits, although not explicitly developed for that purpose.⁵ These co-governance mechanisms provide opportunities for different stakeholders to share the costs and risks to finance urban nature-based solutions, though different groups might hold specific interests or goals.

The stakeholders involved in a co-funding programme could be public actors responsible for different policy agenda, private actors such as corporations that are willing to pay for projects which restore or enhance biodiversity as part of their Corporate Social Responsibility policies, and non-governmental organisations (NGOs) that are increasingly engaging with local authorities and developing programmes for urban areas. To enable such co-governance, generating partnerships is essential as stakeholders need to work together, build up trust and accountability, pool resources and put in place suitable governance mechanisms to coordinate with each other. Furthermore, governmental measures such as tax cuts and subsidies can incentivise the development and uptake of nature-based solutions. In addition, improved evidence and metrics on the impact of urban nature-based solutions can increase the valuation of its multiple co-benefits (e.g. biodiversity protection, noise abatement, climate risks reduction and health improvement), which can then facilitate the further inclusion of potential actors, such as health providers, who are still largely absent in this field. Moreover, a co-financing arrangement would also require an effective monitoring approach to confirm that the multiple values that are sought by different stakeholders are actually realised.

WHAT IS NEEDED TO ACTIVATE THIS PATHWAY?



⁵ See, for example, The Nature Conservancy's Water Funds, the Natural Capital Investment Plan in Manchester, and the Urban Forest Fund in Melbourne.

The Co-governance Initiative of the Green Deal Green Roof in the Netherlands



A government-funded partnership between public and private actors aimed to develop innovative business models for green roofs is the Green Deal Green Roofs (now called the National Roof Plan) in the Netherlands. This network connects all relevant stakeholders in the green roof sector, including municipalities, water utilities, roofing firms and homeowners. It specifically aims to improve structural conditions for mainstreaming green roofs across the country, for example, by lobbying for sewage tax breaks for green roof homeowners. Besides financially supporting the mainstreaming of green roofs, it also promotes the development of multifunctional green roofs by bringing all stakeholders together to share visions and expertise. As a result, green roofs that are developed under the scheme can deliver multiple benefits, including biodiversity, aesthetics, cooling, and water retention.

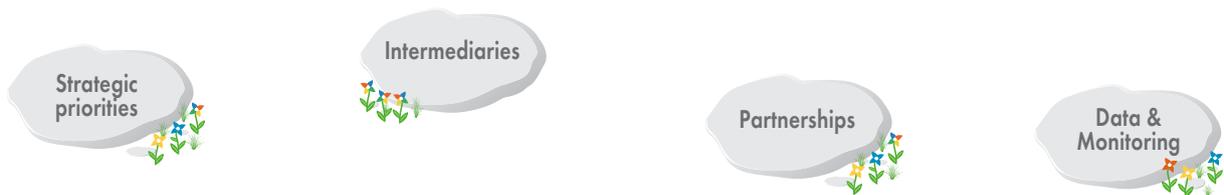
(Photo credit: Shutterstock / Ellyy)

PATHWAY 3: Biodiversity as a co-benefit of Urban Sustainability

This pathway is focused on aligning biodiversity with other urban sustainability commitments and integrating biodiversity into established sustainability policies, tools, and evaluation processes. Whilst taking an increasingly important role in addressing biodiversity issues, cities are confronting many other sustainability challenges, including urbanisation, energy transition, climate adaptation, and health enhancement. Addressing these challenges may open up avenues for urban greening. In virtue of the multi-functional nature of urban nature-based solutions, which can deal with many urban sustainability issues simultaneously, ‘piggybacking’ biodiversity concerns on the prioritised urban agendas can open up great opportunities for mainstreaming nature-based solutions in urban developments.

To enable and facilitate the integration requires breaking down the silos within governmental sectors and between public, private and third sector organisations. Therefore, new organisational forms or intermediary units that work across these institutional divisions are essential to facilitate the collaboration and coordination between departments, boost integrated nature-based solution development and implementation, and provide platforms for innovation. In addition, this pathway also requires the development of evidence to increase the awareness of nature-based solutions’ multiple benefits beyond biodiversity. This pathway highlights that policies do not have to be specifically focused on biodiversity in order to present opportunities for mainstreaming nature-based solutions for biodiversity.

WHAT IS NEEDED TO ACTIVATE THIS PATHWAY?



Biodiversity as a co-benefit of Dutch national plans and policies



In the Netherlands, topics such as climate change, energy transition and circular economy are firmly on the national policy agenda, while this is not the case for urban nature or nature biodiversity. International initiatives such as The Economics of Ecosystems and Biodiversity (TEEB), the Natural Capital Protocol and the EU Biodiversity Strategy to some extent compensate for this as they have resulted in direct investment in tool development for valuing ecosystems (e.g. the Atlas of Natural Capital and TEEB City tools at the national level). In addition, there is a broad range of national plans and policies contributing to urban nature development indirectly, mainly as part of the urban, environment and planning, and climate adaptation agendas. In these agendas, healthy urbanisation is considered a very important theme, and urban nature/biodiversity is regularly highlighted as an effective approach conducive to health promotion. Positioning nature-based solutions as an approach that can deliver multifunctional benefits is thus a promising pathway for mainstreaming it in urban development.

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PATHWAY 4: Building with Nature

This pathway focuses on the important role of the real estate sector in integrating nature-based solutions into urban development for biodiversity gains. The expansion and intensification of human land use in recent decades leads to more homogeneous landscapes that reduce ecosystem diversity and also causes habitat reduction that decreases population sizes and reduces genetic diversity within a species. Reducing the biodiversity impacts of new urban housing or infrastructure development requires either on-site enhancement or off-site offsetting elsewhere in urban areas. This thus can open up great opportunities for mainstreaming nature-based solutions. The integration of nature-based solutions into new urban development to enhance biodiversity can be stimulated by formal requirements through policy instruments (e.g. regulations, tenders or procurement procedures), and can also be facilitated by including biodiversity or nature-based solutions as criteria in existing sustainability tools (e.g. green building certification), or even, by developing new knowledge and tools. Moreover, capitalising on the demand for biodiversity and urban greening represents another opportunity for the wider uptake of nature-based solutions. In some cases, urban developers are responsive to 'green' demand from clients and tenants. Therefore, increasing people's awareness of biodiversity value and targeting stakeholders that value 'green' reputation can be particularly effective to implement nature-based solutions.

The urban development industry is rather fragmented, consisting of firms and stakeholders of a variety of (organisational) sizes and with different roles in managing urban development and utilities. New forms of partnership and public/private governance thus can be critical in this pathway to facilitate mutual learning and knowledge building and sharing, and to ensure that the outcomes of urban development are positive for biodiversity. Often, perceived knowledge gaps stem from a lack of integration across disciplines and a lack of familiarity with biodiversity related to other disciplines (e.g. architect, planner, highway engineer). Therefore, developing integrated knowledge, especially practitioner-based expertise, on urban nature-based solutions and biodiversity, and integrating such knowledge into development processes in an early stage are essential for the effectiveness of nature-based solutions that enhance biodiversity in the actual urban development process.

WHAT IS NEEDED TO ACTIVATE THIS PATHWAY?



The Malmö Tools: Green Space Factor and the Green Points System



The Malmö city district of Västra Hamnen (Western Harbour) in Sweden is an example where green infrastructure planning tools have been successfully used in new developments. The planning of the Western Harbour area began already in the late 1990s. The Green Space Factor is an innovative tool for calculating green space requirements for new development; and the Green Points System is a checklist of 30 green and blue infrastructure options for developers. The idea is that developers are required to have a specified ratio of green space on the plot that is being developed and that different types of green space are weighted differently in relation to the social and environmental features that they offer. The latest versions of Green Area Factor had points for social benefits of green space in addition to points related to biodiversity.

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CONCLUSION

Urban nature-based solutions can contribute to biodiversity and other sustainability goals, but their uptake thus far is limited. In this report we summarise four promising pathways and associated stepping stones to activate these to stimulate the mainstreaming of nature-based solutions in urban development practices for biodiversity.

Pathway 1: Regulate for Biodiversity No Net Loss or Even Biodiversity Net Gain;

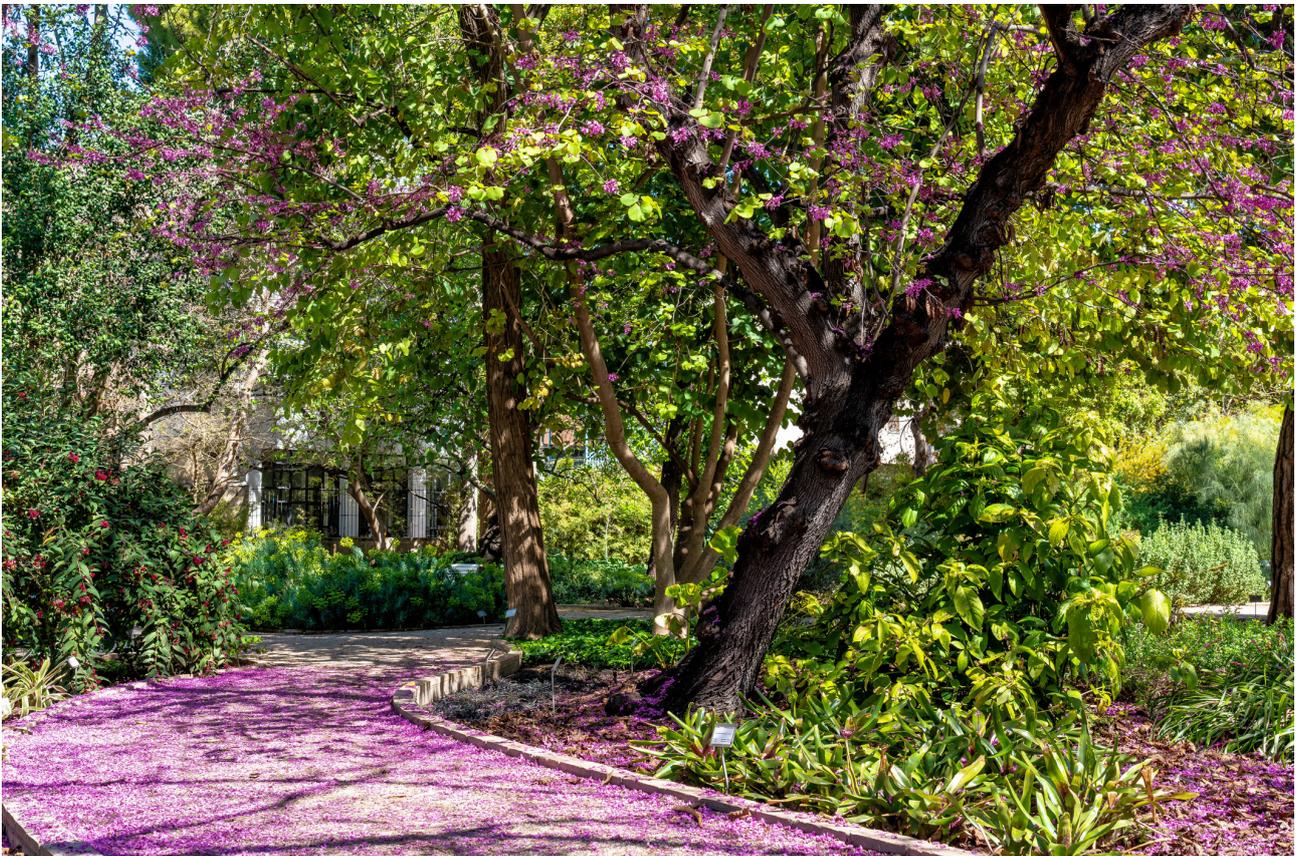
Pathway 2: Co-governance for Public-Private Funding;

Pathway 3: Biodiversity as a co-benefit of Urban Sustainability;

Pathway 4: Building with Nature.

These pathways reinforce each other and include some core interventions that are fundamental for building strong pathways for nature-based solutions, such as the creating of partnerships and improving data and monitoring. No one pathway will be sufficient on its own for mainstreaming nature-based solutions, rather they offer complimentary routes that can be taken together to enable biodiversity action.

While the relevance of these pathways to specific urban contexts will vary, the underlying stepping stones can be applied in diverse settings. We encourage you to use these resources to explore how working with stakeholders and communities you can take the next steps together for mainstreaming biodiversity through action at national and local levels.





Mainstreaming Nature Based Solutions

Promising Pathways for Sustainability Goals



The NATURVATION project uncovered specific pathways that advance Nature Based Solutions and address challenges as diverse as climate change, biodiversity, social inclusion, and economic regeneration. Each pathway is made up of stepping stones, which are summarised in a set of 20 briefing cards. The stepping stone highlight actions in the realms of either policy, finance, or urban development, as well as real-world examples collected during research in the UK, Sweden, the Netherlands, Germany, Spain, Hungary, and at the EU level. Policymakers and others interested in pursuing Nature Based Solutions may select a pathway that aligns with their particular context, and use the designated stepping stones to learn about key actions that will advance that pathway.



Mainstreaming Urban Nature-Based Solutions

Work with investment cycles

Integrating nature-based solutions into building developments and renovations expands the functionality of that infrastructure and reduces costs by drawing on existing budgets. One approach is to identify strategic partners for large green infrastructure projects, as Rooftop Revolution in the Netherlands did with housing corporations planning roof renovations. Roofing firms may also opt to work with homeowners associations to increase the scale of the green roof investment. Water utilities provide a similar opportunity in the UK, where there is increased investment in sustainable drainage systems and flexibility in the financing of infrastructure investments. Public infrastructure providers can require greening or water management in agreements with developers. The Swedish Transport Administration developed guidelines that articulate the integration of ecosystem services into transportation investments.



Municipal investment in urban infrastructure in Sweden offers a substantial opportunity for synergies and cost savings through multi-functional infrastructure that delivers on climate adaptation, mitigation, and ecosystem services. The government articulated that urban greenery and ecosystem services must be integrated into the planning, building and administration of Swedish cities by 2025. Significant investment in transportation, public housing, culture, and recreation flows through local governments, supported by revenue from taxes. Green streetscapes can be pursued through transportation budgets, for example, rather than environmental protection budgets. Overcoming the perceived conflict between policies that promote dense urban infrastructure and policies on urban greening will help unlock public infrastructure investment for nature-based solutions.



Mainstreaming Nature Based Solutions

Promising Pathways for Sustainability Goals



Climate Change

With the race to reach 'net zero' targets and build back resilience, nature-based solutions are increasingly seen as a critical tool for responding to climate change. Whether by cooling cities and reducing energy demand or providing new ways of managing flooding, nature-based solutions are gaining support globally. We identify four pathways through which mainstreaming is taking place: recognising their potential as a climate solution; investing to reduce climate risk; integrating climate action with other sustainability goals; and learning through practical experience on the ground.

Biodiversity

As the world seeks to develop a transformative agenda for biodiversity over the next decade, we explore how mainstreaming nature-based solutions can enable cities to conserve, restore and thrive with nature. Four pathways are identified based on regulating for 'no net loss' of biodiversity, developing co-governance arrangements for public-private finance, integrating biodiversity with existing sustainability priorities, and integrating biodiversity into urban development and the built environment.

Social Inclusion

Nature Based Solutions such as new parks, rooftop gardens, and tree-lined streets play an important role in improving wellbeing and enhancing community spaces. However, the potential for gentrification and displacement of lower income groups means that these solutions must actively foster social inclusion and tackle inequalities. We identify three pathways that strengthen social inclusion: broadening community participation, securing genuine political commitment and policies that support social inclusion, and pursuing social inclusion measures as a way of achieving health and wellbeing.

Economic Regeneration

Nature-based solutions can create economic regeneration through increasing economic activity and employment and by improving the quality of life. Nature-based solutions both directly contribute to economic vitality and well-being, and leverage new forms of economic activity in cities that generate opportunities. Mainstreaming for economic regeneration takes place through developing partnerships for investment, increasing our knowledge of their economic value, seizing opportunities emerging from other sustainability initiatives, and stimulating market demand for nature-based solutions.

Sustainable Development Goals

To achieve the SDGs, urban development must prepare for growing populations while also creating sustainable and inclusive cities. Nature Based Solutions can address a range of sustainability goals from climate resilience to health to economic development. For example, green space provides cooling, reduces pollutants, and encourages physical activity. Pathways that engage urban Nature Based Solutions to address SDGs include: involving diverse actors, strengthening local engagement, addressing multiple sustainability objectives simultaneously, establishing institutional arrangements that integrate sustainable development, and monitoring and assessing sustainable urban transformation.



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