BIO-NEIGHBOUR

Towards greener, more biodiverse neighbourhoods

Recommendations for the Enhancement of Biodiversity in New Residential Developments

Date

May, 2026

Eco Park in Clay Farm, a development by Park Developments
Credits: Park Developments

Developed as part of the BIO-NEIGHBOUR project by the Irish Green Building Council and Trinity College Dublin, with support from The Housing Agency.

IGBC
IRISH GREEN BUILDING COUNCIL

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An Ghníomhaireacht Tithíochta
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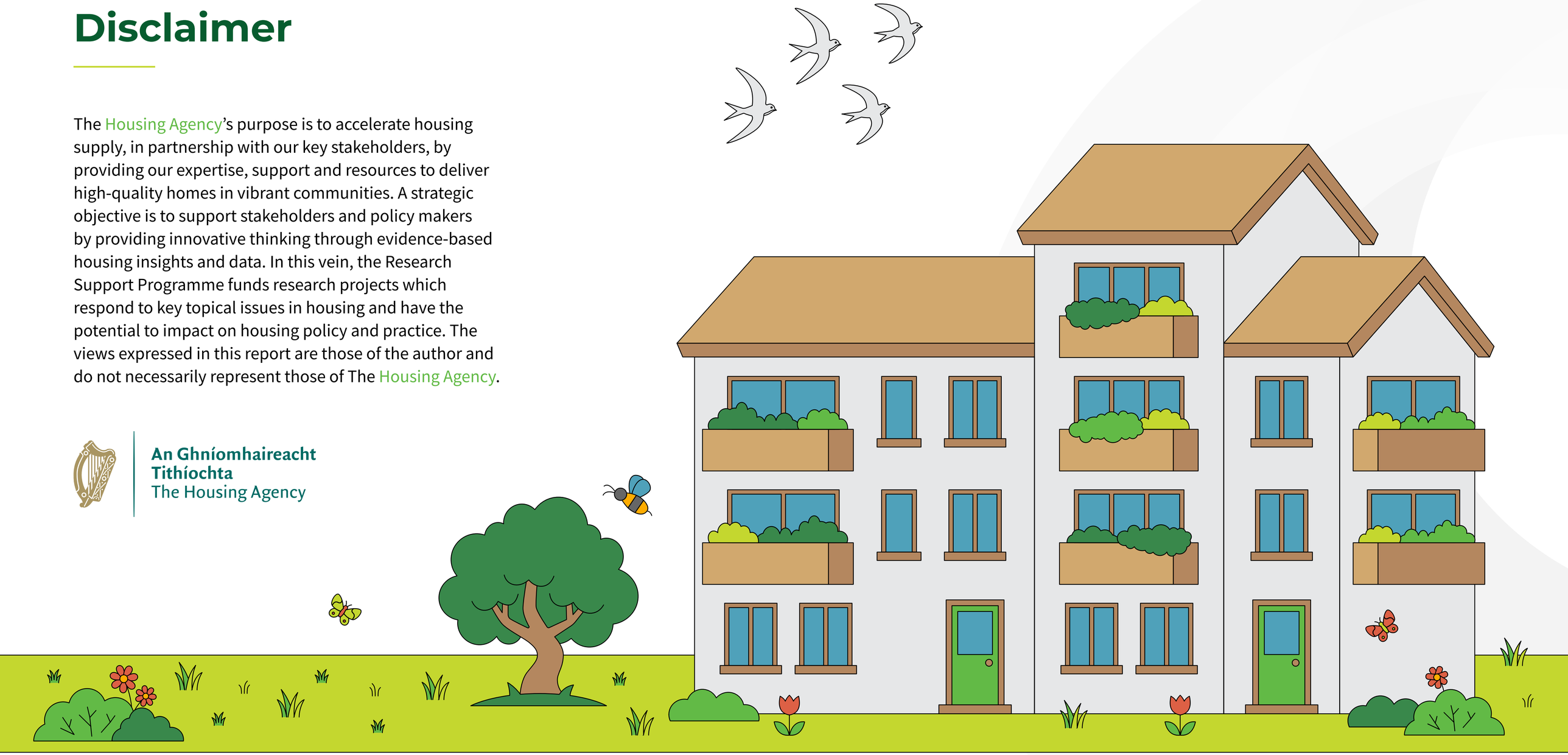

Acknowledgments

We extend our sincere thanks to all the organisations and individuals who contributed to these recommendations, whether through one-to-one interviews, workshops, or focus groups. A full list of participating organisations can be found in Appendix 2 of the report. We also thank our Irish Green Building Council (IGBC) and Trinity College Dublin (TCD) colleagues Anna Daly, Mairéad O'Donnell, Natalia Rodríguez Castañeda and Juby Thekkekara for helping us organise and facilitate the workshop.

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About this Initiative

Investors, policymakers, and upcoming regulatory changes increasingly require the integration of green-blue infrastructure (GBI) and biodiversity measures into new residential developments. However, these practices are not yet being implemented at scale. To address this, the Irish Green Building Council (IGBC) and Trinity College Dublin (TCD), through the **BIO-NEIGHBOUR project**, collaborated with practitioners across both public and private sectors to develop recommendations to accelerate nature-led solutions in residential developments and support thriving, sustainable communities across Ireland.

This final publication brings together the outcomes of D3.1 (Co-Creation Workshop Reports) and D4.1 (Evidence-based recommendations to address key challenges and support effective actions for biodiversity enhancement).

For more information about this project and to read the previous reports, please visit www.igbc.ie.

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Summary

Enhancing biodiversity, supporting thriving communities

Ireland's new housing plan – *Delivering Homes, Building Communities 2025-2030* – aims to deliver 300,000 homes by 2030. Achieving this alongside Ireland's obligations to protect and restore biodiversity under policy and legislation such as the EU Habitats Directive, the Nature Restoration Regulation (NRR), the National Planning Framework (NPF), and the New Planning and Development Act requires a coordinated approach to achieve the national objectives set for housing and for nature. The integration of biodiversity measures into all new residential developments through a holistic approach not only benefits nature but also reduces planning risks, expedites and streamlines housing delivery, and creates high-quality, climate-resilient neighbourhoods with cleaner air and improved health and wellbeing.

Developed through extensive stakeholder engagement, the findings, recommendations, and actions set out in this report are grounded in the principles of the mitigation hierarchy and provide a clear, practical foundation for nature-positive planning and design at scale.

300,000
Homes by 2030

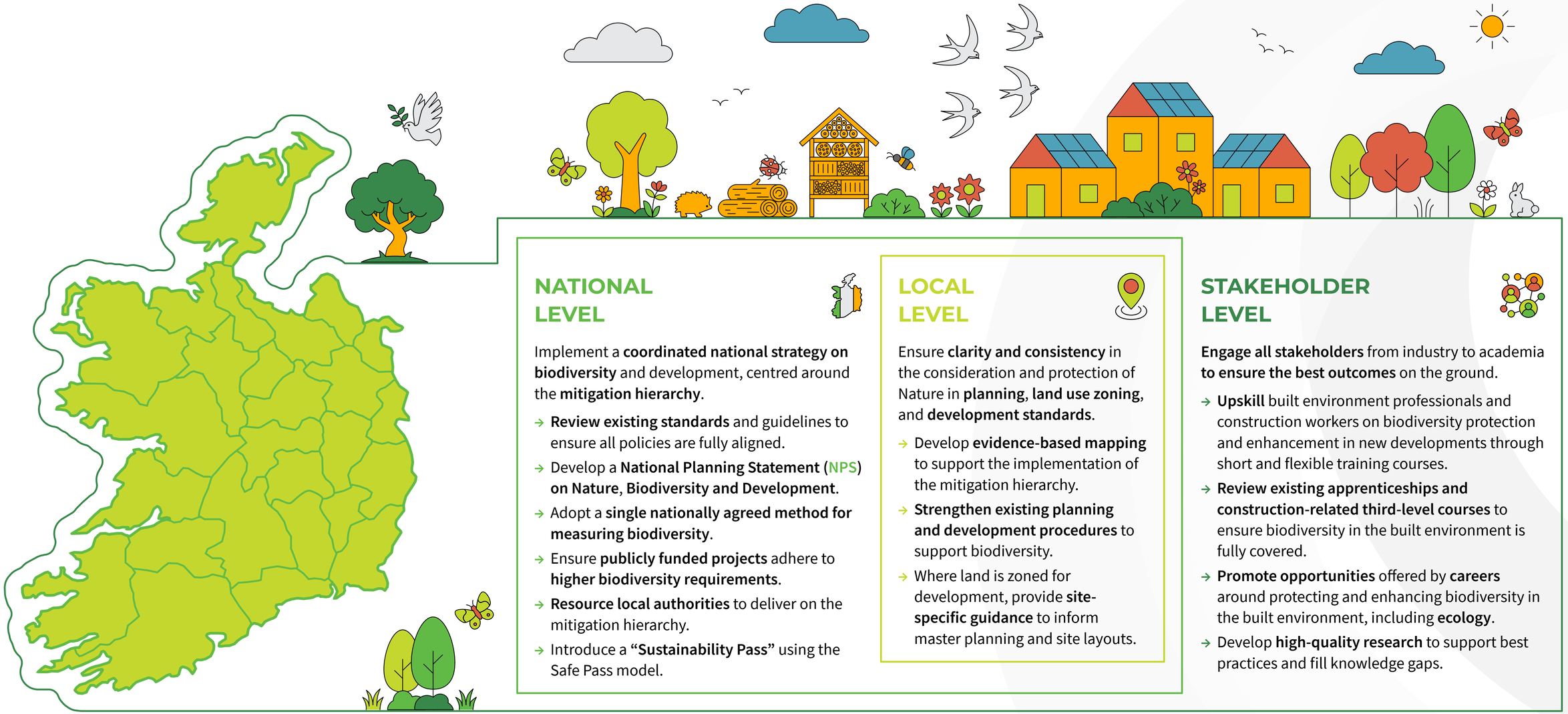
Implementing Mitigation Hierarchy

AVOID	MINIMISE	RESTORE	OFFSET

GOALS

- Sustainable Homes
- Biodiversity Protection & Restoration
- Reduced Planning Risk
- Climate Resilience
- Streamlined Approvals
- Cleaner Air
- High-Quality Neighbourhoods
- Health & Wellbeing

Priority Actions



NATIONAL LEVEL

Implement a **coordinated national strategy on biodiversity** and development, centred around the **mitigation hierarchy**.

- **Review existing standards** and guidelines to ensure all policies are fully aligned.
- Develop a **National Planning Statement** (NPS) **on Nature**, **Biodiversity and Development**.
- Adopt a **single nationally agreed method for measuring biodiversity**.
- Ensure **publicly funded projects** adhere to **higher biodiversity requirements**.
- **Resource local authorities** to deliver on the mitigation hierarchy.
- Introduce a **"Sustainability Pass"** using the Safe Pass model.

LOCAL LEVEL

Ensure **clarity and consistency** in the consideration and protection of Nature in **planning**, **land use zoning**, and **development standards**.

- Develop **evidence-based mapping** to support the implementation of the mitigation hierarchy.
- **Strengthen existing planning and development procedures** to support biodiversity.
- Where land is zoned for development, provide **site-specific guidance** to inform master planning and site layouts.

STAKEHOLDER LEVEL

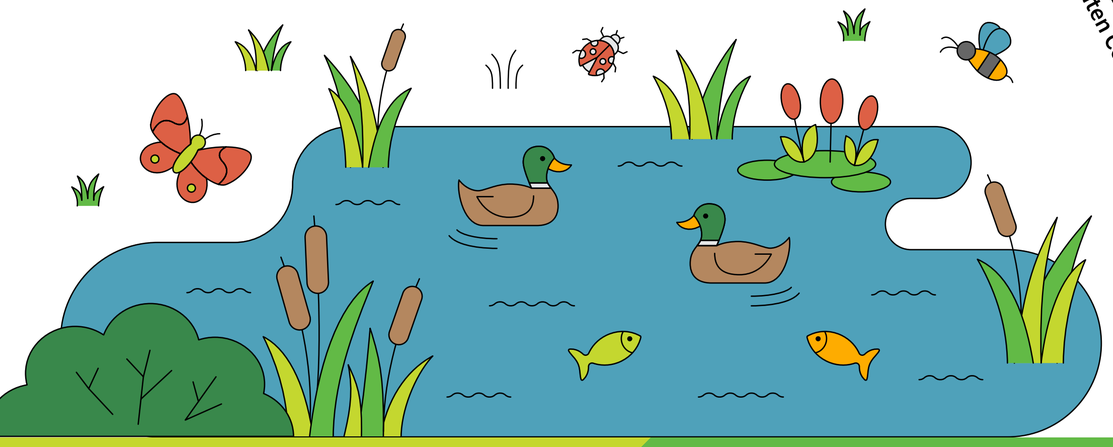
Engage all stakeholders from industry to academia **to ensure the best outcomes** on the ground.

- **Upskill** built environment professionals and construction workers on biodiversity protection and enhancement in new developments through short and flexible training courses.
- **Review existing apprenticeships and construction-related third-level courses** to ensure biodiversity in the built environment is fully covered.
- **Promote opportunities** offered by **careers** around protecting and enhancing biodiversity in the built environment, including **ecology**.
- Develop **high-quality research** to support best practices and fill knowledge gaps.

Introduction

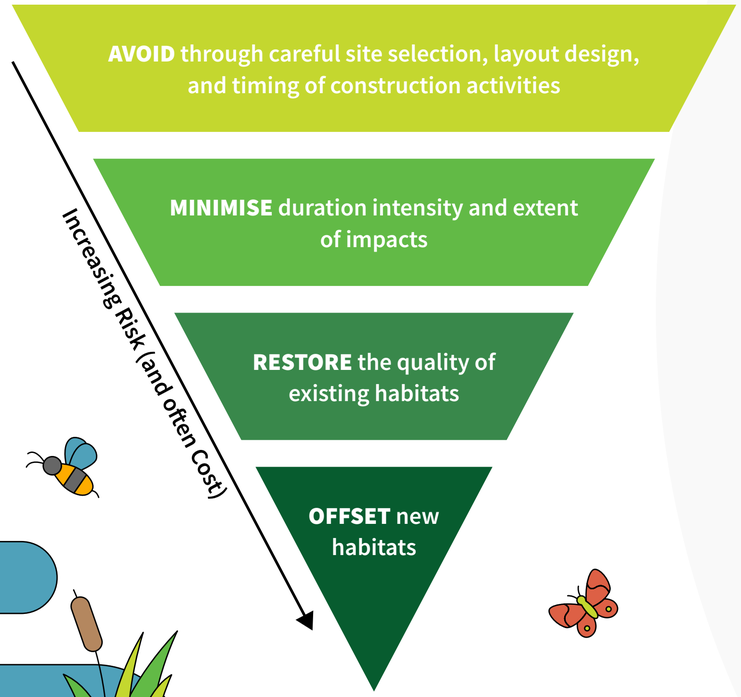
Extensive stakeholder and practitioner engagement for this project gave evidence-based insights and practical recommendations to scale up nature-led approaches to residential development in Ireland. Participants highlighted the need to avoid piecemeal approaches and instead provide certainty, consistency, and clarity for all stakeholders, including local authorities and practitioners involved in designing and delivering new homes.

Throughout the process, participants repeatedly emphasised the central importance of the **mitigation hierarchy** as the guiding principle for nature-led planning and design. This approach was also recognised as the foundation for achieving compliance with both the National Planning Framework and the Nature Restoration Regulation. It is also necessary to fulfil obligations under broader legislation and policies such as the European Union Planning and Development Environmental Impact Assessment Regulations, the Wildlife Amendment Act 2023, the European Communities Birds and Habitats Regulations, the National Biodiversity Action Plan, the National Adaptation Framework, and Section 15 of the Climate Action and Low Carbon Development Act 2015.



About the mitigation hierarchy

The foundation of sensitive ecological planning is to recognise nature as a key stakeholder from the very outset of a project, and to apply the mitigation hierarchy as early as possible. This hierarchy to avoid, minimise, restore, and, as a last resort, offset biodiversity losses provides a clear framework for managing and reducing negative ecological impacts arising from development.



In this document, each section is centred on a strategic **key objective**, which is the overarching recommendation. These are then broken down into **more granular action steps**. The recommendations and actions are set out in **three sections**:

National Level: coordinated, nationwide actions that are implemented or supported by national legislation, such as the National Planning Framework, the Planning and Development Act and the Nature Restoration Regulation.

Local Level: actions that are implemented or supported through local policy, planning processes, and development plans, predominantly through Local Authorities.

Stakeholder Level: actions that target specific stakeholder groups or design team members, and actions that are implemented at the site or project level.

Each recommendation also has a suggested timeline, defined as follows:

- **Short term**: 1-2 years
- **Medium**: 2-5 years
- **Long term**: 5+

Where stakeholders are included and suggested as leads or partners, please note this does not mean that they have agreed to such a role. Rather, it is the authors of this report's opinion that they are the most appropriate stakeholders to lead or work on those specific actions. Stakeholders would need to engage with each other to identify ways to operationalise or implement new approaches.

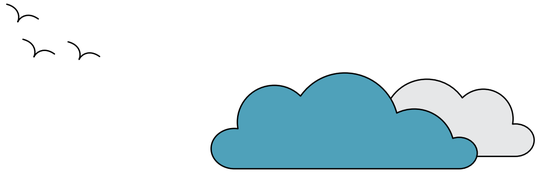
Recommendations & Action Steps

National Level

OBJECTIVE

Implement a **coordinated national strategy** on biodiversity and development, centred around the **mitigation hierarchy**.

> *"Strategically look at land banks, habitat connectivity, rivers, hedgerows, grasslands, all of that, and zone land for development while taking account of these areas. So, what it means is you don't have to dedicate 10% of all your sites for biodiversity, but you are going to, at a spatial scale, improve biodiversity."*
>
> **Research Participant**



With a national commitment to deliver 300,000 new homes by 2030, alongside strengthened legal requirements to protect and restore biodiversity, a coordinated national approach is essential to secure positive outcomes for both people and nature. A clear, national-level strategy will not only support housing delivery by reducing environmental delays, but also ensure that new developments contribute to healthier, more climate-resilient neighbourhoods.

Action 1

Assign responsibility for nature and biodiversity within the development process at national level, translating down to local, and project level.

- **Lead**: Designated Government Department
- **Partners**: CCMA, LGMA, NPWS, OPR, Industry Representative Bodies
- **Timeline**: Short Term

Set out all steps of the development process from early-stage national coordination (e.g. National Planning Framework) and strategic planning to post-development long-term maintenance, and assign responsibility, standards, and expectations around the consideration of nature and biodiversity through a public framework implemented for all planning and development projects.

Rationale:

- To provide clarity on ownership, responsibility, and expectations for nature across all stakeholders, all aspects, and all stages of the planning and development process.
- To ensure there is a voice for nature at all development stages.

Action 2

Develop a National Planning Statement (NPS) on Nature, Biodiversity, and Development.

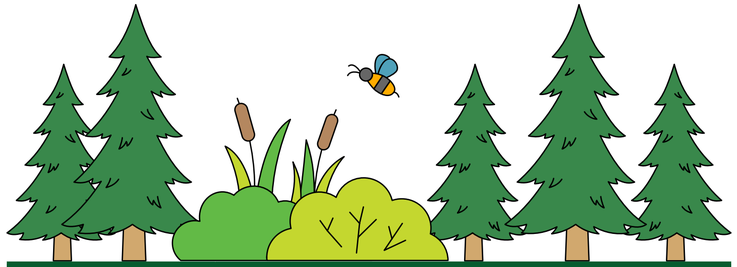
- **Lead**: Designated Government Department
- **Partners**: CCMA, LGMA, Local Authorities; OPR, Industry Representative Bodies
- **Timeline**: Short Term

Part 1 of the dedicated NPS should reference mandatory national policies and measures which will achieve the coordinated national strategy proposed in this document. It should also reference the implementation of Article 8 of the Nature Restoration Regulation, including green-blue infrastructure (GBI) strategies at the regional and local level, and relevant tools. Detailed guidance on these aspects should be presented in Part 2 of the NPS.

In parallel, ensure strong requirements, in relation to this NPS, are incorporated into all other NPSs where relevant.

Rationale:

- To promote the mitigation hierarchy and establish clear standards and expectations around biodiversity and development.
- To elevate all nature and biodiversity considerations, beyond protected sites, to an equal footing with other development factors such as roads, drainage, and built heritage, regardless of project scale and location.
- To promote consistency across local authorities by informing future development plan standards for nature through the NPS
- To streamline the consenting process, improve certainty, and facilitate sustainable development.



Action 3

Review existing standards and guidelines to ensure all policies are fully aligned.

- **Lead**: Designated Government Department
- **Timeline**: Short Term

Review all national guidelines related to residential development in the context of the required targets for nature set in the NRR and the NPF, including standards such as the Planning Design Standards for Apartments, the Sustainable Residential Development and Compact Settlements Guidelines, the Guide to Taking in Charge of Completed Residential Developments, as well as standards on roads, car parking, and drainage.

Identify the key documentation used by practitioners across both public and private sectors and update this to align with new requirements under the dedicated NPS (Action 2) and the NPF.

Rationale:

- To ensure guidelines facilitate and promote a nature-led approach to residential development and are conducive to achieving the biodiversity objectives in the NPF and the NRR.
- To address contradictions across policies and prioritise the amendment of existing guidance over publishing separate new guidance, to simplify compliance for project stakeholders, and minimise litigation risks.

Action 4

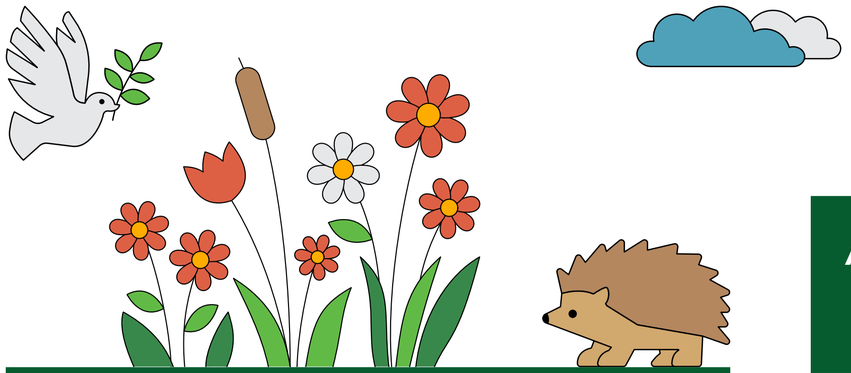
Develop a National Mapping Strategy for Green and Blue Infrastructure (GBI), and County Biodiversity Areas (CBAs).

- **Lead**: Designated Government Department
- **Partners**: CCMA, EPA, Industry Representative Bodies, LGMA, National Biodiversity Data Centre, Tailte Éireann
- **Timeline**: Short to Medium Term

Develop a national mapping strategy, processes, scope, and data standards to ensure consistency across all local authorities and support long-term use and updates. A national working group engaging local authority practitioners and technicians should be set up to agree on the scope and methodology. Mapping to include information on habitats, protected sites, county biodiversity areas, ecological connectivity, environmental sensitivity mapping, existing and potential GBI and its prioritisation. Maps are to be openly accessible to all stakeholders to inform development proposals.

Rationale:

- To support proper planning and inform the implementation of the mitigation hierarchy, hence de-risking and expediting the development process.
- To support early consideration, preservation, and future planning of important GBI and ecological corridors.
- To form the foundation of compliance and reporting for the NPF and NRR.



Action 5

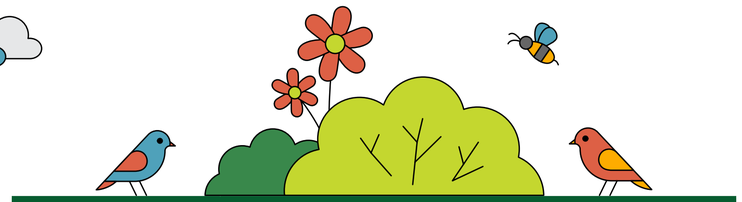
Agree and adopt a common set of simple biodiversity measurement tools for Ireland.

- **Lead**: Central Government
- **Partners**: CCMA, Industry Representative Bodies, LGMA, Local Authorities
- **Timeline**: Short (Agree) to Medium Term (Implement)

Agree and adopt a common set of simple measurement tools for Ireland, considering insights and experience from existing tools used in Ireland and internationally. Metric tools must consider the ecological baseline and mature ecological features in the site layout alongside the mitigation hierarchy, as well as the size and the type of developments - e.g., infill vs. greenfield sites. Metric tools should be considered as a secondary protection, after early site baseline review, the application of the mitigation hierarchy and best practice guidance.

Rationale:

- To provide clarity and consistency of expectations for development projects in integrating measures for nature.



Action 6

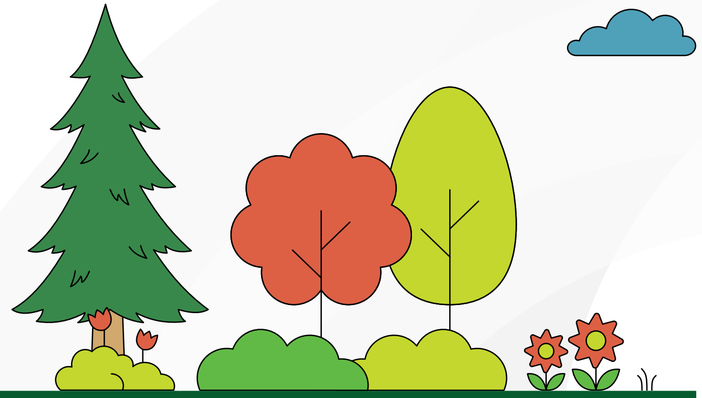
Resource Local Authorities to deliver on the mitigation hierarchy approach and the objectives set within the NPF, and the new dedicated NPS.

- **Lead**: Central Government
- **Partners**: Heritage Council, Local Authorities, LGMA
- **Timeline**: Medium term

Each local authority should employ at least one planning ecologist and ensure that suitably qualified and trained professionals are consistently involved throughout the development process. Planning ecologists should engage with both public and private developers as needed, including at critical project stages such as pre-application and compliance sign-off. This approach will promote best practice, improve clarity of expectations, and strengthen ecological knowledge within the construction industry. Resource local authorities to employ GIS specialists to undertake and maintain GBI mapping and inform proper planning.

Rationale:

- To ensure targets for housing delivery and for nature are met.
- To support a coherent, coordinated, and consistent development approach across the country.
- To promote high standards.
- To develop skills, awareness, and capacity within the industry.
- To ensure enforcement.



Action 7

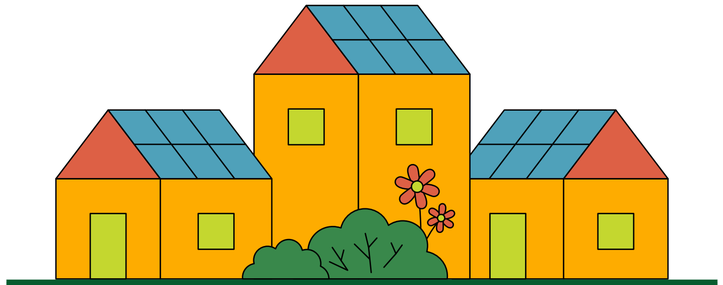
Provide capital funding for urban greening and nature-based solutions to enhance their quality and extent.

- **Lead**: Central Government
- **Partners**: CCMA, Industry Representative Bodies, Irish Rail, LGMA, Local Authorities, OGP, Semi-state Bodies in Infrastructures
- **Timeline**: Short Term

Provide additional resources in the form of capital funding for urban greening projects and Nature-based Solutions as part of public infrastructure schemes, to maintain and expand the extent and quality of GBI.

Rationale:

- To ensure targets for nature restoration are met.
- To show that the public sector is leading by example, and promote high standards.
- To raise awareness about these solutions across society and build capacity within the industry.



Action 8

Where the government invests in new residential developments, ensure these adhere to higher biodiversity requirements.

- **Lead**: Central Department
- **Partners**: CCMA, Industry representative bodies, LGMA, OGP
- **Timeline**: Short Term

Ensure that publicly funded and supported projects, including housing, adhere to higher requirements in relation to the protection and enhancement of biodiversity through procurement, grants, or tax incentives from the private sector. Ensure best practices and learnings are widely shared with all key stakeholders.

Rationale:

- To demonstrate best practice.
- To support learning and capacity building within the industry.
- To set standards for future developments.
- To improve equitable access to green–blue infrastructure (GBI).
- To contribute to greater awareness of the benefits of nature-led residential developments across society.

Action 9

Establish a central repository for guidance on nature, biodiversity, and development best practices, standards, and case studies.

- **Lead**: Designated Government Department
- **Partners**: Heritage Council, National Biodiversity Data Centre, NPWS, Researchers, Industry Representative Bodies
- **Timeline**: Medium Term

Develop a simple, easy-to-use, and up-to-date repository coordinated and managed by a suitable national entity. Streamlining and clarity should be a priority, with a lesser number of established, proven guidance documents which are kept up to date, being preferred over larger quantities of material and documentation.

Ensure all documents are pre-approved, freely available, and that it is clear whether the guidance is statutory or non-statutory. The repository should include centralised and agreed guidance accepted by all local authorities in relation to common and shared biodiversity considerations such as lighting, tree planting, hedgerow and riparian networks, SuDS, and landscape maintenance procedures.

Case studies should include financial information as a priority, to share knowledge on the costs and savings associated with the installation and maintenance of Nature-based Solutions and other biodiversity measures, in comparison to traditional infrastructure costs.

Rationale:

- Inform project stakeholders.
- Support local authorities and practitioners' upskilling.
- Share proven methodologies.
- Avoid duplication or contradiction when developing new guidance.

Action 10

Develop and mandate a "sustainability pass" - based on the "safe pass" model.

- **Lead**: Designated Government Department
- **Partners**: Academia, ETBs, Industry Representative Bodies, SOLAS
- **Timeline**: Medium Term

In addition to a general introduction to sustainability, renewables, energy and resource efficiency, this should incorporate a baseline level of fundamental knowledge on biodiversity and development for all built environment and construction workers and professionals. This could build upon existing courses, such as the Nature Skills Training for public sector staff and contractors piloted by Laois Offaly ETB.

Rationale:

- Incentivise upskilling.
- Ensure the quality of design and delivery on all projects.
- Ensure protection of biodiversity at all stages of the construction process.

Local Level

OBJECTIVE

Ensure **clarity** and **consistency** in the consideration and protection of nature and biodiversity in **planning**, **land use zoning**, and **development standards**.

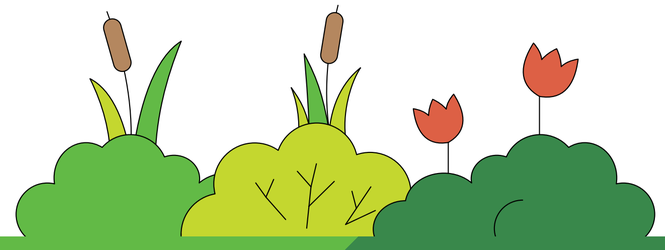
> *"You have to have coordinated policies between Local Authorities and in all counties to avoid confusion and uncertainties."*
>
> **Research Participant**

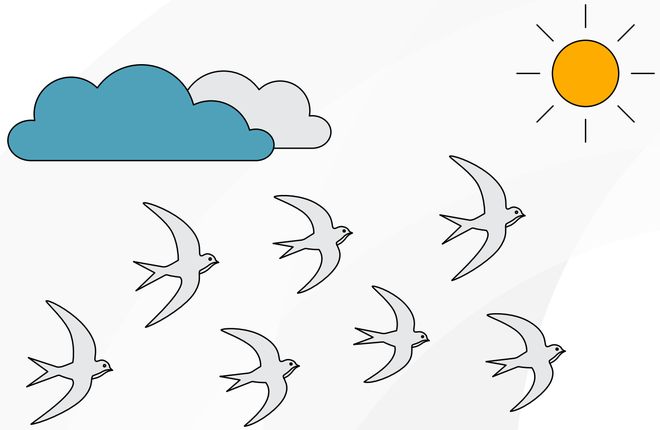
The standards and expectations around how nature and biodiversity are integrated into the development process at local level must be coordinated, clear, and aligned with best practice. Research participants stated that requirements vary across different regions and different local authorities. This creates inconsistencies in how nature is considered across different projects, which creates variation in the implementation of nature-led measures, and barriers to advocating for nature at a project level due to a lack of underpinning from consistent policy.

Planning legislation often requires ecological assessment only at the level of Environmental Impact Assessment (EIA) or Appropriate Assessment (AA). Participants noted that *"most developments slip through this net"*, and this leaves biodiversity largely unaddressed in many projects, particularly those of a smaller scale.

A systemic lack of enforcement further negatively impacts outcomes for nature and biodiversity. Research participants stated that measures submitted at the planning stage are often not followed through at the construction stage or in long-term management plans. The taking in charge process and public green space management strategies vary significantly across local authorities and can contradict the development plan in some cases. Local authority maintenance regimes can also unintentionally impact outcomes for biodiversity, as measures implemented at the planning stage, such as meadow management for grassland, are gradually changed over time. This creates a creeping loss that is not always evident.

The actions presented below create common, best-practice standards that promote consistency across local authorities and development plans, and drive nature-led outcomes at project level.





Action 11

Develop and implement evidence-based mapping.

- **Lead**: Local Authorities
- **Partners**: CCMA, Central Government, EPA, LGMA, Regional Assemblies
- **Timeline**: Medium Term

Use the national mapping strategy (Action 4) to develop consistent and standardised maps across all local authorities. Ensure the maps are regularly updated, including through the planning compliance process, using 'as-built' GBI information. Maps should be publicly available in digital format for reference by practitioners and to inform project strategies.

Rationale:

- Inform proper planning at county and project level.
- Feed into the national mapping strategy.

Action 12

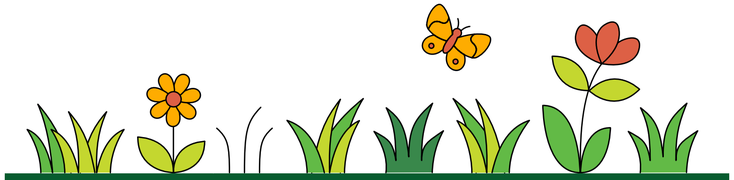
Strengthen existing planning and development procedures to support biodiversity outcomes.

- **Lead**: Local Authorities
- **Partners**: CCMA, Central Government, Industry Representative Bodies, LGMA, OPR
- **Timeline**: Medium Term

Integrate biodiversity into existing tools and procedures, such as planning validation checklists – like the Biodiversity Checklist in Northern Ireland - and the planning condition process, with biodiversity actions required before conditions are discharged. Front-load biodiversity considerations at the early design and pre-application consultation stages to ensure the best outcomes for nature and to de-risk the planning process. Coordinate with other early-stage design elements, such as Sustainable Urban Drainage Systems (SuDS), to ensure co-benefits and resource efficiency.

Rationale:

- Promote consistency and best practice across all projects.



Action 13

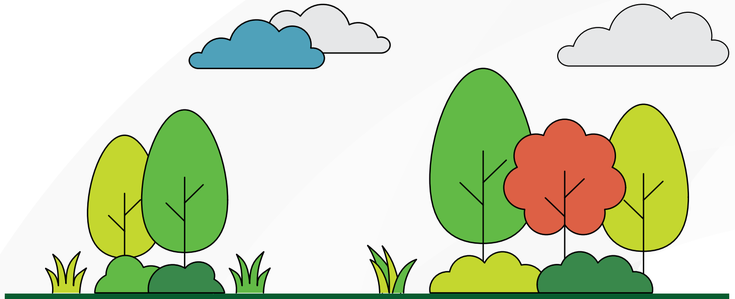
Where land is zoned for development, provide guidance to inform master planning and site layouts, based on the principles of the mitigation hierarchy.

- **Lead**: Local Authorities
- **Partners**: Central Government, Industry Representative Bodies, LGMA, OPR, Regional Assemblies
- **Timeline**: Short Term

Where land is zoned for development, provide guidance for developers and practitioners. The guidance should set out best-practice design principles for designing with nature and should promote early-stage involvement of ecologists on projects. It should also explicitly prohibit any site clearance within the five years preceding the submission of an application. The integration of this guidance into the development project should be demonstrated at the pre-planning stage and reviewed by the Local Authority. The guidance should promote ecological connectivity and consideration of the surrounding landscape in relation to the proposed site layout.

Rationale:

- To ensure that all natural features are considered and protected where sites are zoned for development.
- To de-risk and expedite the planning process by promoting the consideration of biodiversity at the earliest project stage.



Action 14

Ensure social housing schemes developed by local authorities adhere to higher standards and are used by local authorities for knowledge sharing.

- **Lead**: Local authorities
- **Partners**: CCMA, Community Groups, Industry Representative Bodies, LGMA, NGOs, OPW, Researchers
- **Timeline**: Medium Term

Use social housing schemes developed by local authorities as reference points for best practice, demonstrating the integration of biodiversity measures, the coordinated design process, and showcasing the desired outcomes for all development projects. These projects should also be used to build evidence for best practice management methods, and to record costs and savings generated by the integration of NbS, as well as for educational purposes.

Rationale:

- Demonstrate expectations.
- Promote certainty.
- Build case study examples, and raise awareness.

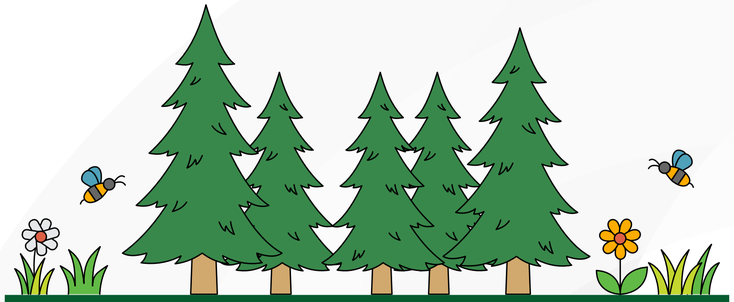
Stakeholder Level

OBJECTIVE

Engage **all stakeholders** from industry to academia to ensure best **long-term outcomes** on the ground throughout the **project lifecycle**.

> *"We need to make sure that we communicate in the same language about what stuff actually means on the ground."*
>
> **Research Participant**

The knowledge, skills, and perceptions of stakeholders such as built environment professionals and development teams influence outcomes for nature at all stages of the planning and development process. To deliver on the *"whole of Government, whole of society"* approach set out in the 4th National Biodiversity Action Plan, a baseline level of knowledge across all practitioners is needed. Research participants stated that knowledge sharing reduces uncertainty, decreases perceived and actual risk, and greatly supports a cohesive interdisciplinary working environment. It also reinforces the consideration of nature and biodiversity as a ubiquitous component at all project stages, by ensuring all stakeholders have a baseline understanding of key principles. The recommendation is to promote training and upskilling for all stakeholders, and to promote knowledge sharing to develop best practices. Also see Action 10, Sustainability Pass.



Action 15

Upskill building professionals and construction workers on biodiversity protection and enhancement in new developments through short and flexible training courses.

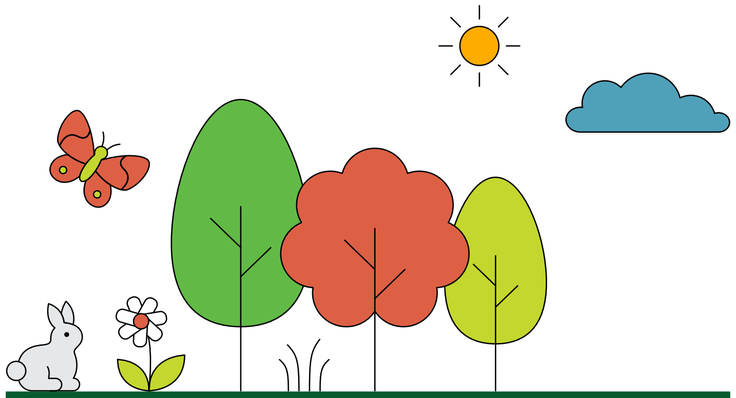
- **Partners**: Central Government, ETBs, Industry Representative Bodies, Skillnet, SOLAS
- **Timeline**: Short to Medium Term

Develop courses tailored to relevant practitioner disciplines or project stages, emphasising applied solutions and project examples from experienced practitioners.

Where possible, these courses should be delivered through existing channels such as the Local Authority Services National Training Group, the OPR training pathways, the CIF, RIAI training, or Skillnet. Integration with existing training may be suitable in some cases, for instance, with Construction Environmental Management Plans (CEMP) for staff and site supervisors.

Rationale:

- To ensure that practising construction and built environment professionals have adequate training on biodiversity best practice.



Action 16

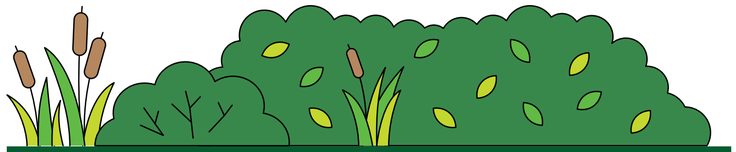
Review existing construction-related third-level courses and apprenticeships to ensure biodiversity in the built environment is integrated into the learning outcomes.

- **Lead**: SOLAS, HEA
- **Partners**: Industry Representative bodies, ETBs, third-level institutions
- **Timeline**: Medium Term

Topics to be covered include ecology, environmental law, risk mitigation and best practice across a range of habitats – similar to Nature Skill Training - but learning outcomes should be discipline and course-specific, with an emphasis on applied knowledge. The roles and responsibilities of other design team members and project stakeholders with regard to biodiversity should also be clearly explained to support collaboration across all projects.

Rationale:

- To improve knowledge levels.
- To ensure that graduate practitioners have adequate training.



Action 17

Build skills and capacity by promoting careers focused on protecting and enhancing biodiversity in the built environment - including ecology, environmental management, and botany.

- **Lead**: Industry Representative Bodies
- **Partners**: Academia, Designated Government Department, Institute of Guidance Counsellors, SOLAS
- **Timeline**: Short Term

Careers, such as in Ecology, Environmental Management, and Botany, should be promoted in schools and universities, highlighting a growing sector and career opportunities that exist beyond the conservation of protected areas. Structured pathways into the sector should be designed and implemented to build capacity and support role uptake. These pathways should reference existing successful approaches in the built environment sector, such as the Graduate Planner Programme.

Rationale:

- To address the shortage of professionals skilled in ecology and botany.
- To ensure continuity of skills.
- To promote capacity building.
- To meet new and increasing requirements for nature and biodiversity in the development process.

Action 18

Develop high-quality research to support best practices and fill knowledge gaps.

- **Partners**: Central Government, Construct Innovate, Industry Representative Bodies, Taighde Éireann/Research Ireland, Third level Institutions
- **Timeline**: Medium Term

Research should target known knowledge gaps and barriers to the integration of nature and biodiversity measures in residential development, including a detailed cost-benefit analysis of nature-based solutions in new developments vs. traditional grey infrastructure. This should cover both the implementation and management of GBI and NbS. Existing national and international best practices should be reviewed and ‘lessons learnt’ researched to facilitate improvements to new and existing policy in Ireland.

Rationale:

- To build knowledge on applied examples and best practices.
- To eliminate uncertainty.

Methodology

The research engaged over 100 key stakeholders, including practitioners in the built environment sector, to develop practical and implementable solutions to improve the integration of measures for nature and biodiversity in new residential developments. A series of interviews, workshops and focus groups were completed between January and December 2025 with experienced practitioners in ecology, planning, architecture, engineering, landscape architecture, development and public bodies.

The overall process undertaken during the development of the recommendations is highlighted below. The list of stakeholders involved can be found in Appendix 2.

A key element in Step 1 was a working definition for new development which integrates Nature. As part of this process, the project team came up with the concept of **nature-led residential developments**.

"Nature-led residential developments mean the overall ecological impact of a project, including land use, construction, supply chains, and occupation, results in a demonstrable enhancement of biodiversity and supports long-term ecological resilience, accounting for both direct site-level impacts and indirect embodied ecological impacts. This should be achieved by recognising existing site conditions, implementing the mitigation hierarchy (avoid, minimise, restore, compensate), prioritising like-for-like nature restoration where possible, enhancing ecological connectivity, and securing long-term management and monitoring."

Step 1 Understanding barriers to the scale-out of nature-led solutions

This first phase of the research was developed using a multi-method qualitative approach to cross-verify findings, combining:

1. Literature review to identify common barriers and solutions
2. Semi-structured interviews to explore practical, on-the-ground barriers and enablers in the Irish context
3. A focus group to validate preliminary findings and prioritise key barriers and potential solutions.

The results from all activities were synthesised to highlight the most critical challenges and strategies for scaling up the implementation of nature-led solutions in new residential developments.

A report about this preliminary research can be found here.

Step 2 Identifying best practices and actions to implement nature-led solutions at scale

This phase of the research adopted a mixed-methods approach, combining:

1. Targeted desktop review
2. Semi-structured interviews with professionals across planning, design, and ecological consultancy, local government, engineering, development, and construction.

Interview participants reflected on the barriers identified in Step 1 and shared ideas, best practices, and system-level changes to improve biodiversity outcomes. All interviews were transcribed and systematically analysed.

A report about the best practices identified can be found here.

The recommended actions, tested in Step 3, were derived from this analysis and framed as practical steps necessary to enhance biodiversity in the built environment.

A report about the actions identified can be found here.

Step 3 Evaluating & validating the most promising ideas

The actions identified in Step 2 were tested through an in-person cross-disciplinary workshop with more than 50 professionals in October 2025. Stakeholders are listed in Appendix 2.

Step 4 Developing a comprehensive set of recommendations

Using the data collected in the previous three steps, recommendations were developed and refined through targeted interviews with relevant professionals.

Appendices

Appendix 1: Policy & Regulatory Context

The following is a list of all relevant frameworks, policies and legislation.

EU LEVEL

Policies

EU Green Infrastructure Strategy (COM/2013/249 final)
Type: Strategy
Year: May 2013
Description: Promotes a connected network of green and blue infrastructure across Europe.

EU Biodiversity Strategy for 2030
Type: Strategy
Year: May 2020
Description: EU plan to halt biodiversity loss, restore ecosystems, and expand protected areas.

A New Deal for Pollinators (COM/2023/35 final)
Type: Initiative
Year: January 2023
Description: Strengthens EU actions to protect and restore wild pollinator populations.

Legislation

Appropriate Assessment (AA) (Directive 1992/43/EEC – Art. 6(3)/6(4))
Type: Directive
Year: May 1992
Description: Ensures proposed plans or projects do not harm Natura 2000 sites.

Habitats Directive (Council Directive 92/43/EEC)
Type: Directive
Year: May 1992
Description: Establishes conservation measures for habitats and species, including Natura 2000.

Strategic Environmental Assessment (SEA) (Directive 2001/42/EC)
Type: Directive
Year: June 2001
Description: Requires environmental assessment of plans and programmes before adoption.

Strategic Flood Risk Assessment (SFRA) (Directive 2007/60/EC)
Type: Directive
Year: October 2007
Description: Requires flood risk mapping and management planning.

Birds Directive (Directive 2009/147/EC)
Type: Directive
Year: November 2009
Description: Protects wild bird species and establishes Special Protection Areas.

Environmental Impact Assessment (EIA) (Directive 2014/52/EU)
Type: Directive
Year: April 2014
Description: Requires environmental assessment of major development projects.

EU Taxonomy Regulation (Regulation (EU) 2020/852)
Type: Regulation
Year: June 2020
Description: Defines criteria to classify environmentally sustainable economic activities.

Water Framework Directive (Directive 2000/60/EC)
Type: Directive
Year: October 2000
Description: Establishes integrated water management and aims for good water status.

EU Nature Restoration Regulation (Regulation (EU) 2024/1991)
Type: Regulation
Year: June 2024
Description: Introduces legally binding ecosystem restoration targets across the EU. Article 8 places new focus on the role of urban ecosystems in protecting biodiversity, introducing two key indicators: urban green space and urban tree canopy cover.

Urban Wastewater Treatment Directive (Directive 2024/3019)
Type: Directive
Year: November 2024
Description: Updates wastewater treatment standards to protect water quality.

NATIONAL

The Wildlife Act 1976 – Wildlife (Amendment) Acts 2000 and 2023

Type: Legislation

Years: 1976, 2000, 2023

Description: Core national wildlife protection legislation.

All-Ireland Pollinator Plan 2021–2025

Type: Initiative

Year: March 2021

Description: All-island plan to protect pollinators and restore pollinator-friendly habitats.

Ireland's 4th National Biodiversity Action Plan 2023–2030

Type: Action Plan

Year: January 2024

Description: National strategy to conserve biodiversity and strengthen ecosystem resilience.

Nature-Based Management of Urban Rainwater and Urban Surface Water Discharges – National Strategy

Type: Strategy

Year: May 2024

Description: National strategy promoting nature-based solutions for stormwater and rainwater.

National Adaptation Framework (NAF) 2024

Type: Policy / Framework

Year: June 2024

Description: Ireland's national climate adaptation strategy across all sectors.

Water Action Plan 2024: River Basin Management Plan

Type: Plan

Year: September 2024

Description: Ireland's national plan for achieving water quality improvements.

National Planning Framework: First Revision

Type: Policy / Framework

Year: April 2025

Description: Ireland's long-term spatial development strategy.

NPF Objectives for Biodiversity

National Policy Objective (NPO) 84: In line with the National Biodiversity Action Plan and European Union Nature Restoration Regulation, and best available scientific information, regional and local planning authorities shall support the preparation and implementation of the National Restoration Plan.

National Policy Objective (NPO) 85: In line with the National Biodiversity Action Plan; the conservation, enhancement, mitigation and restoration of biodiversity is to be supported by:

- Integrating policies and objectives for the protection and restoration of biodiversity, including the principles of the mitigation hierarchy of - avoid, minimise, restore and offset - of potential biodiversity impacts, in statutory land use plan.
- Retention of existing habitats which are currently important for maintaining biodiversity (at local/regional/national/international levels), in the first instance, is preferable to replacement/restoration of habitats, in the interests of ensuring continuity of habitat provision and reduction of associated risks and costs.

National Policy Objective (NPO) 86: In line with the objectives of the National Biodiversity Action Plan, planning authorities should seek to address no net loss of biodiversity within their planning functions.

National Policy Objective (NPO) 87: Enhance the conservation status and improve the management of protected areas and protected species by:

- Implementing relevant EU Directives to protect Ireland's environment and wildlife and support the objectives of the National Biodiversity Action Plan;
- Developing and utilising licensing and consent systems to facilitate sustainable activities within Natura 2000 sites;
- Continued research, survey programmes and monitoring of habitats and species.

National Policy Objective (NPO) 88: Facilitate the protection and restoration of biodiversity [including in European sites and the habitats and species for which they are selected] through the preparation of national guidance in relation to Planning and Biodiversity to:

- Plan and manage for the integration of biodiversity protection and restoration in future planning and development;
- Ensure a consistent and strategic approach to biodiversity protection and restoration across planning authorities and administrative boundaries, and
- Support the implementation of the National Biodiversity Action Plan (2023-2030) and the forthcoming National Restoration Plan.

Climate Action and Low Carbon Development Act 2015

Type: Policy / Framework

Year: December 2025

Description: Establishes Ireland's climate governance system and legally binding carbon budgets.

LOCAL

Local Authority Biodiversity Action Plans

Type: Plan

Description: Local measures to protect and enhance biodiversity.

Local Authority Biodiversity and Heritage Strategic Plan

Type: Plan

Description: Integrates biodiversity and heritage objectives at local authority level.

Local Authority Climate Action Plan

Type: Plan

Description: guides local climate action, including biodiversity elements and nature based solutions

Sustainable Drainage Systems Strategy

Type: Strategy

Description: adopted by some local authorities to ensure development is designed to accommodate increases in stormwater.

Appendix 2: Stakeholders Involved

- Áit Urbanism + Landscape
- Altemar
- An Post
- Arup
- BAM Construction
- Bank of Ireland
- Beldare Homes
- BSM Landscape Architects
- Cairn Homes
- Catalyst
- CIEEM
- Clay Farm Residents Association
- Clúid Housing
- Collen
- Consulting Ecologists
- Cork City Council
- Cork County Council
- CS Consulting Engineers
- D/RES Properties
- Dark Sky Ireland
- Deaton Lysaght Architects
- Department of Housing, Local Government and Heritage
- Dublin City Council
- Dublin Metropolitan Climate Action Regional Office
- Dun Laoghaire Rathdown County Council
- EDP UK
- Ecolux Modulars
- Engineers Ireland
- Environmental Protection Agency
- ESB
- Ethos Engineering
- Fingal County Council
- Flynn Furney Environmental Consultants
- Galway City Council
- Glenveagh Properties
- Grangegorman Development Agency
- Green Belt
- Greengage Environmental
- HJL Architects
- Housing Association for Integrated Living
- HSE Estates Sustainable Infrastructure Department
- I-RES
- Irish Landscape Institute
- John Paul Construction
- JSA
- Kildare County Council
- KPMG
- Land Development Agency
- Lawler Sustainability
- Limerick County Council
- Local Authority Waters Programme
- Mary Tubridy & Associates
- Meath County Council
- MOLA Architecture
- Murray & Associates
- National Biodiversity Data Centre
- O'Brien Landscaping
- O'Connor Sutton Cronin
- Ó Cualann
- Office of Public Works / OPW
- Park Developments
- Philip Lee Solicitors
- Pocket Forests
- Property District
- Repsychable
- RKD Architects
- RPS
- SAP Landscapes
- Savills
- Science Manager / Academic
- Scott Tallon Walker Architects
- Shay Cleary Architects
- Sisk
- Soprema
- South Dublin County Council
- Studio Red Architects
- studioaula
- The Heritage Council
- Transport Infrastructure Ireland
- Tuath Housing
- University of Dundee
- University of East London
- Waterford City & County Council
- Zero Waste

Appendix 3: Acronyms & Definitions

AA – Appropriate Assessment

Assessment process required under the EU Habitats Directive to evaluate impacts on protected sites.

CBA – County Biodiversity Areas

High nature value sites at county level, often identified in Development Plan Mapping and Local Authority Biodiversity Action Plans, focused on conserving, restoring, and managing local biodiversity and semi-natural habitats.

CCMA – County and City Management Association

Non-statutory body representing local government management.

CEMP – Construction Environmental Management Plans

Training for staff in environmental controls, waste management, pollution prevention and archaeological conservation during construction.

CIEEM – Chartered Institute of Ecology and Environmental Management

Professional body representing ecologists and environmental managers.

CIF – Construction Industry Federation

Representative body for employers in the construction sector.

DHLGH – Department of Housing, Local Government and Heritage

Designated Government Department responsible for housing, planning and heritage.

EIA – Environmental Impact Assessment

Formal process to assess significant environmental effects of development.

EPA – Environmental Protection Agency

National environmental regulator for air, water, waste, pollution and compliance.

ETBs – Education and Training Boards

Statutory bodies responsible for delivering education and training services.

EU – European Union

Political and economic union of member states.

GBI – Green and Blue Infrastructure

Network of green spaces (parks, trees) and blue spaces (water bodies, wetlands).

GIS – Geographic Information System

Technology used to capture, analyse and present spatial/geographical data.

HA – Housing Agency

Government body supporting housing delivery, policy and research.

IGBC – Irish Green Building Council

Organisation promoting sustainable, low-carbon building in Ireland, leading the BIO-NEIGHBOUR project.

LGMA – Local Government Management Agency

Supports and coordinates local authorities nationwide.

NbS – Nature-based Solutions

Solutions using natural systems to address environmental and societal challenges.

NBAP – National Biodiversity Action Plan

Ireland's national strategy for biodiversity conservation.

NPF – National Planning Framework

Ireland's long-term spatial planning strategy to 2040.

NPWS – National Parks and Wildlife Service

Government body for nature conservation and biodiversity protection.

NPO – National Policy Objective

Policy objective within the National Planning Framework.

NPS – National Planning Statement

To be approved by Government, it will provide clear, consistent national planning policies that all regional and local authorities must follow (and will replace ministerial guidelines).

NRR – Nature Restoration Regulation

EU Regulation on restoring degraded ecosystems, including urban nature.

OGP – Office of Government Procurement

Ireland's central body for public procurement, responsible for sourcing common goods and services and ensuring value for money across the public sector.

OPR – Office of the Planning Regulator

Oversees the quality and consistency of Ireland's planning system.

OPW – Office of Public Works

Ireland's State agency for heritage, government property, and flood risk management.

RIAI – Royal Institute of the Architects of Ireland

Professional body for registered architects.

SOLAS – Further Education and Skills Service

State agency overseeing the building of the Further Education & Training (FET) sector in Ireland.

SuDS – Sustainable Urban Drainage Systems

An approach that uses natural processes to manage stormwater.

TCD – Trinity College Dublin

University partner collaborating on the BIO-NEIGHBOUR project.

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